Original Articles.

A POSSIBLE FACTOR IN THE PRODUCTION AND DISTRIBUTION OF EDEMA.*

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Is there one among us who has not been struck, if not puzzled, by the curious distribution of edema, especially in cases obviously of mechanical obstruction to the circulation? We see, for instance, two cases of mitral disease with failure of the myocardial compensation. The physical signs and symptoms taken altogether indicate lesions similar in kind, as well as degree, and also an approximately equal myocardial weakness. The parallelism between the two cases may be accentuated by an equal rapidity and degree of improvement under, for all practical purposes, identical treatment. The sequence of events is mechanically impeded circulation, dilatation of the right heart annulling compensatory hypertrophy, over-plus of blood in the venous system, stasis, dropsy. A difference in the degree of the dropsy in the two cases may be readily accounted for by differences in the lesion, valvular, myocardial, or both, which elude any means now in our powers to estimate. But it would seem that the distribution of the edema should be essentially the same. It is, however, notoriously not so. In one case we see dropsy chiefly or only in dependent parts, especially the legs; in another the great serous sacs are markedly involved with a varying degree of stasis in the lungs, liver and kidneys and little or no anasarca; in still another stasis shows itself mainly in an enlarged liver; in short, seemingly similar mechanical conditions show results which vary far more widely than one would, off-hand, expect.

Long ago a possible, at least partial, explanation occurred to me. I have not seen it in print or heard it suggested, and venture to lay it before you, keenly realizing its hypothetical nature, and how far removed it seems, at present, from direct evidence. The Bertillon system shows that by a sufficient number of accurate measurements any person can be distinguished from every other person. Even more remarkable proof of the individuality of the individual is afforded by the fact that no two persons have the same finger prints. Is it not at least possible that analogous variations may exist in the texture of the tissues, of the organs, in the blood, or one or another of its constituents, which may be a factor in the distribution of edema?

In the urticarias, perhaps especially the giant form, and in angio-neurotic edemas, a nervous element must play an important part; but it would seem possible that individual peculiarity of tissue may play a part in the localization of the striking superficial changes.

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ON THE SIMULTANEOUS OCCURRENCE AND INTERRELATION OF BASEDOW'S DISEASE AND TABES.

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Pierre Marie in 1892 was the first to call attention to the simultaneous appearance and possible interdependence of the symptoms of Basedow's disease with those of incipient or already well developed tabes. In a clinical lecture on the vascular apparatus, as affected by tabes, he says, "les lésions et ces troubles sont multiples et peuvent frapper de façons diverses le coeur et les vaisseaux. En connextion avec ces troubles vasculaires j'aurai l'occasion de vous parler d'une complication signalée tout récemment: le goître exophthalmique." Since Marie's remark on the subject very little has been written about it. Sattler in "Die Basedow'sche Krankheit" issued as a part of Graefe-Sämisch's "Handbuch der Augenheilkunde" mentions and gives a short abstract of the cases reported: by Joffray, 3; Barie, 1; Sechchieri, 3; P. Marie and Marinesco, 1; Ingelhans, 1; Moebius, 1; Lewinek, 1; Timotheef and Mannheim, 2; Kollait, 1; Hudovering, 1; Charcot, 1; Delearde, 1; Wiener, 1; Cohen, 3; Bernhardt, 1. Oppenheim, Eppinger, Strümpell and von Mehring refer to the condition in a few words. In view of the small number of reported cases and the scarcity of literature on the subject, I shall review the salient points as found in a study of the reported cases and literature. Oppenheim in his "Lehrbuch der Nervenheilkunde" raises several interesting points as regards tabes, from the standpoint of the observer also interested in Basedow,—that in tabes epiphora, without local disease of the tear-conducting passages, or tic-like winking of the upper lid, or hyper-esthesia in the neighborhood of the eye, may be found as part of a fifth nerve lesion. These conditions are also not infrequent ones in Basedow's disease. Interesting for the same reasons are the following remarks: "To be especially regarded in early tabes are a number of symptoms displayed as the effect of lesions in the territory of the vago-accessorius. Chief of these is the habitual frequency of pulse, which in not an inconsiderable number of cases may be found early in the disease." In tabes also there may exist, as Oppenheim points out, signs and symptoms directly referable to diabetes mellitus, so that one may be led to the diagnosis of tabes with diabetes, of diabetes with tabes, or finally admit the two to be coexistent, if not dependent

upon each other in these cases. Westphal's sign, paresthesias, lancinating pains, paralysis of ocular muscles, loosening and shedding of teeth, impotence, may be found in diabetes. Williams and Marinesco have in a few rare cases of clinically well marked diabetes even found typical atrophy of the posterior columns. Addison's disease may also show a few symptoms usually associated with tabes, such as Westphal's sign; in one case Bernardi showed a degeneration of the posterior columns. Of tabetic symptoms, which are often among those of the sufferer from Basedow's disease, Oppenheim mentions psychic anomalies, disturbances of general nutrition, motor-weakness, tremor, discoloration of the skin, and diarrhea. The occurrence of Basedow's disease at the same time and as a possible result of other diseases, has been noted a number of times. Walzberg reported a sarcoma of the cranial floor with optic neuritis and Basedow, Oppenheim a hemorrhagic destruction of the posterior inner capsule, with hemi-anesthesia and hemi-ataxia in a woman of 42, who had had Basedow's disease for half a year; the same author also a case of hemi-anesthesia and hemi-ataxia caused by hemorrhagic destruction of the posterior inner capsule, showing shortly after this symptom of Basedow's disease; Joffray and Ashard a combination of Basedow's disease and syringomyelia, as also did Spillman; Moebius and Gordon cases of Basedow's disease with paralysis agitans; Savage, one combined with progressive paralysis; Reynolds a case of disseminated sclerosis and Basedow; Ziegel, Graves' disease combined with scleroderma and a positive Wasser mann reaction.

The symptoms of Basedow's disease followed in the train of the symptoms of the others mentioned in all but one of these cases, and in such fashion that the authors suggest the other disease to have acted in some way as the "Auslösendes Moment." Its occurrence immediately after or during the course of hysteria and various psychoses, of which are to be especially mentioned the melancho-manic type, dementia præcox, and hallucinatory paranoia, is a not uncommon occurrence.

Finally a direct if short statement is made as regards its occurrence coincident with tabes: "Most frequently we find tabes combined with hysteria, occasionally with epilepsy, seldom with myasthenic paralysis and diabetes; very seldom indeed with Basedow's disease." Sattler expresses himself as follows regarding the combined picture of tabes and Basedow's disease: "The coexistence of Basedow's disease and tabes appears on the whole to be very infrequent. There exist, however, a number of cases where the coincidence of these diseases has been surely established. If the characteristic symptoms of both are well developed the diagnosis offers no difficulty. On the other hand, if only a few signs of the one or of both exist, it is questionable as to how far one may go in assuming the combination of Basedow's disease and tabes to be present; for we know that in exceptional instances a transient absence of the patellar reflex may occur in Basedow's disease as well as parapareses almost simulating ataxie, with paresthesias of various kinds, and that on the other hand, as Charcot has pointed out, tabetics not infrequently show habitual tachycardia, and that often in the early stages of their disease, as also states of anxiety with tachycardia and arrhythmia of almost the character of an angina pectoris. Again quoting P. Marie in his original lecture on the subject, "Donc fréquence dans le tabes d'un des symptomes cardinaux du goitre exophthalmique, la tachicardie."

Bernhard Sachs in Osler's System, volume on "Disease of the Central Nervous System," does not mention the disease picture, nor does the picture as such receive recognition or even mention in other text-books except those of Oppenheim, von Mehring, Lewandovsky and Sattler, already quoted. Yet, as P. Marie says at the close of this lecture, illustrated by clinical cases: "Cette coincidence de la maladie de Basedow et du tabes est-elle donc un fait extrement rare? Eh bien non, Messieurs!"

Judged by the history and physical findings of the following cases, I believe P. Marie's opinion to have been correct, and that the coincidence of these diseases and a possible relationship when they are so coincident, has been somewhat neglected in our literature and teaching.

CASE 1. The patient sent by Professor M. in Krakau, who in 1911 had found a visual acuity of 6/9 with +3 sp. both eyes. Color perception somewhat diminished. The patient admitted having contracted lues 24 years ago, and had been treated thoroughly with mercurial injections. In 1902 he had been given a glass to read with because of an internal ophthalmoplegia. Both papilla had begun to show slight discoloration since 1896. In 1912 bilateral exophthalmus had been noted. His wife had borne one healthy child; had had two abortions.

Physical Examination. Male, 66 years old, presents an unusually emaciated appearance; the thyroid is slightly and uniformly enlarged, soft, no pulsation. Pulse varies between 102-110 a minute. The protruded tongue and extended hands tremble slightly. Marked bilateral exophthalmus. Hertel, 27. Lid margins widely separated, movements of eye in all directions normal, the right eye, however, often turns outward (Moebius). Graefe's sign absent, Stellwag's present. Both pupils enlarged, left more so than right; pupillary reaction to light and convergence completely absent. The right papilla chalky white, the temporal half showing a shallow excavation; this is also the condition of the left papilla. Margins of the disc sharply outlined; vessels unchanged. The right patellar and tendo Achilles reflex present but weak, the left ones absent. Romberg indicated. In the territory of the right ulnar nerve a subjective feeling of "going to sleep"; an area of anesthesia, band-shaped, over the right mammary region. No lancinating pains, no headaches. Wassermann reaction positive. The patient has taken iodides for many years.

Case 2. Marie M., 42 years. The patient complains of an unsteady gait during the last five years, and that this is increasing. She has noticed a diminution in vision since several months; during this time she has also lost a great deal of weight, perspired freely and felt extremely nervous and "jumpy"; she has noticed her exophthalmus since one month. She also complains of sharp, "tearing pains" in her leg. Of tabetic signs shows unequal and dilated pupils R-L. No reaction to light, convergence reaction unimpaired. Both optic discs are quite gray, temporally, of a slightly yellow gray color in their nasal halves. Disc margins clear cut, retinal vessels normal. Both patellar and tendo Achilles reflexes absent. Romberg marked. The walk is of a markedly ataxic character. No paresthesias. Wassermann positive; marked bilateral exophthalmus. Hertel, 28. Von Graefe's and Dalrymple's sign present. Pulse varies between 115-120; marked tremor of extended hands and tongue; thyroid gland easily palpable, no pulsation. Vision both eyes, 6/24. The visual fields show marked concentric narrowing, especially for red.

Case 3. Alfred M., 52 years. The patient admits lues 15 years ago, states that he was treated at that time with repeated mercurial inunctions. He presents a mixed picture of tabes and Basedow, the signs and symptoms of the latter causing him to consult the clinic; tall, thin, extremely nervous, quick and abrupt in movement, with a roving, unsteady glance. Marked exophthalmus. Hertel, 28. Moebius, Graefe, Dalrymple evident; marked fine tremor of extended hands and tongue. Pulse 120. He perspires very easily and has lost a good deal of weight recently. The thyroid is barely palpable, no thrill, no bruit. Both pupils considerably wider than normal, equally so, reacting neither to light nor accommodation. Both patellar and tendo Achilles reflexes absent. Romberg barely indicated. An area of hypalgesia from the 4th to the 13th rib, right side. Belly reflexes somewhat tardy and barely perceptible. Fundus normal. Vision, B. E. 6/6. Wassermann positive.

Case 4. Isidor W., 58 years. Typhoid fever when 15; gonorrhea at 20; luetic infection denied; married, first 2 children still born, then 4 healthy children. For 5-6 years, loss of sensation in ulnar nerve territory of right arm. Later atrophy of thenar eminence, right hand. Exophthalmus for last 10 years. Had lost a good deal of weight up to 1½ years ago, but since then has gained 10 lbs. Perspires easily and freely, is nervous and excitable. Has had urinary retention relieved by catheterization for two years. Sexual ability not impaired. In the last two years he has stumbled and fallen frequently. Has undergone several inunction treatments, about the time and extent of which he is uncertain. Examination shows exophthalmus of marked degree. Hertel, Moebius, Graefe, Stellwag absent. Very marked intention tremor of the hands, tremor of extended tongue. Pulse, 120. No enlargement of thyroid gland. The dorsal surface of both hands show a diminution of sensibility and unequal perception of painful stimuli. Marked atrophy of thenar and antithenar eminences as well as interossei. Both patellar and tendo Achilles reflexes absent. Romberg well marked. Fundus normal. Vision, B. E. 6/6. Pupils contracted, no reaction to light, reaction to convergence present. Wassermann negative.

Case 5. Eduard R., 43 years. The patient presents himself because of failing vision. He shows a right sided ophthalmoplegia externa of marked degree, which had appeared first six years ago, had changed for the better occasionally, but has become markedly worse during the last year. Slight paresis of the facial of the same side. Deep and superficial reflexes normal. No Romberg. Pupillary reaction normal. Vision, B. E. 6/18, not improved by glasses. Fundus, papillae uniformly light gray in color, sharply outlined, retinal vessels unchanged. The field of vision shows a uniformly concentric contraction for white of moderate degree, but of marked degree for all colors. In addition to the above tabetic signs he presents a moderate degree of exophthalmus. Hertel, 24. Dalrymple present. Graefe and Moebius absent; thyroid easily palpable, no pulsation; the extended hands and tongue show a slight tremor. Pulse, 120 to 130 a minute. States that he has felt restless and nervous during the last weeks, has perspired markedly and had constant diarrhea; loss of weight said to have been considerable. He admits having acquired lues 25 years ago. No treatment. Wassermann positive.

Case 6. Albertine Sch., 31 years. The patient presents herself complaining of diplopia. States that she also "saw double" the previous year, lasting 6 weeks. She is found to have a paresis of both superior oblique muscles. The right pupil is constantly somewhat larger than its fellow, and reacts less promptly to light; reaction for convergence normal. The right Achilles reflex cannot be elicited even with Jandrassek's manoeuvre. Patellar reflexes normal. No areas of anesthesia. Romberg absent. The fundus normal; both discs show well marked physiological excavations. In addition to the above signs of a tabes incipiens there are present an enlarged thyroid, a fine tremor of extended hands and tongue, pale moist skin, a pulse of 110 and a moderate degree of exophthalmus. Hertel, 23. Has lost 25 lbs. in the last 4 months, during which period she has also become very irritable and unstable in her emotions, easily excited and worried. During this time she has been treated at a medical clinic in Vienna, taking the following prescription every week: Kalil jodati 5,0, aquae fontanae 200/0. She admits having contracted lues 10 years ago. Wassermann positive.

Case 7. Adele B., 42 years. The patient presents herself because of the exophthalmus. This she has had to a slight degree for two years, accompanied by a decided feeling of general weakness, marked perspiration and tachycardia, these all having increased markedly in the last six months. Of the signs of Basedow's disease, she shows enlargement of the thyroid, without pulsation or bruit, tremor of extended hands and tongue, tachycardia, a pulse of 120 and exophthalmus. Hertel, 27. Von Graefe's and Dalrymple's signs present. Moebius absent. There has been a decided loss in weight; both pupils wider than normal, slight anisokorie, reaction to light absent. Patellar and tendo Achilles reflexes absent. Slight Romberg. No ataxia. Fundus in all details normal. Wassermann positive.

Case 8. Therese M., 46 years. The patient presents herself because of failing sight. Vision found to be B. E. 6/18, not improved by glasses. Examination of her visual field by Bjerrun's method shows

a concentric contraction of the field for red with temporally a U-shaped indentation corresponding to a similar but slighter one for the white field, which was also concentrically narrowed. The fundus showed a well marked primary atrophy of both optic discs. She states that she noticed diplopia lasting a month, six years ago. In the last three to four years she has often vomited green matter, suffering at the time with severe pain in the epigastric region. At present she complains beside the failing sight, of great nervousness, of "feelings of anxiety" accompanied often by profuse perspiration, especially at night. She feels weak and is short of breath; in the last three months has lost 15 lbs. in weight. Examination shows an easily palpable thyroid, no pulsation, a slight degree of exophthalmus. Hertel, 22. The right eye stands in a convergence of 10°, possibly due to the former abducens paralysis, with consequent contracture of the antagonist,—diplopia cannot be elicited now. Graefe, Dalrymple, Moebius, absent. Pulse, 125. Fine tremor of extended hands and tongue. Patellar and tendo Achilles reflexes absent. Pupils normal. Wassermann positive.

Eight cases of this character in the space of three months among the ambulatory of the clinic lead Fuchs to the not unnatural supposition that this condition is more frequent than has been up to now supposed; and as many come to an eye clinic first, partly because of the exophthalmus, partly because of their failing sight, due to tabetic nerve atrophy, partly because of the motor instability which is often felt as a dizziness and referred to the eyes, a good number have no doubt been overlooked.

Careful survey of these histories and physical findings can leave no doubt that all were afflicted at one and the same time with Basedow's disease and tabes. A survey of the literature, scanty as it is, the finding of 8 of these cases within the last three months in one clinic, and granting the very probable supposition that many of these cases exist but are overlooked, neither ophthalmologist nor internist examining Basedow patients with reference to tabes, which, as we have seen, is in nearly all these cases incipient, its symptomatology often masked by the more striking picture of the Basedow component, surely dispels the assumption that when found together, we are facing two absolutely separate and independent affections happening to coincide in time.

In the further discussion of the possible relationship of the symptoms in these cases, I believe it will become clear that we are not dealing with coincidences. Summing up the cases it can be said: All but 1 show a positive Wassermann reaction; all show the cardinal symptoms of tabes; Argyll-Robertson, absence of patellar or tendo Achilles reflex; all but 2 Romberg's sign; 3 cases in addition to the cardinal symptoms primary optic atrophy; 1 case marked ataxia, 2 cases distinct areas of paresthesia, 1 lancinating pains. Six of the 8 admit having had lues. There can be no doubt that we are dealing with 8 tabetics. As a group they present just as typical a picture of Basedow's disease. All show exophthalmus, a pulse varying from 95-120, and fine tremor of extended hands and tongue; a palpable and enlarged thyroid, though to slight degree in all but one; all complain of perspiration, of restlessness and nervousness. All show marked loss of weight. The summing up of these signs and symptoms meets the very justified warning of Von Mehring: "One must beware of the diagnosis of 'secondary Basedow' or 'forme fruste,' if a few of the great number of symptoms of hyperthyroidism are found in connection with paralysis agitans, tabes, certain psychoses, in the course of chronic iodide intoxication, with chlorosis, or during excessive thyroidin treatment." Two of my cases had been taking iodides and it is a question as to whether they belong in the type picture. They are instructive in another regard, however, to be referred to later. There is no case in which any one of the signs here ascribed to Basedow, or the combination of them in any case, could be counted as belonging to the tabes, with the exception of the rapid pulse. This, however, in view of all the other signs and symptoms of Basedow's disease, can be safely reckoned as belonging to this latter.

The "time occurrence" of the two diseases is an aspect of the combination on which Sattler has collected some interesting data. In the cases of Joffray, Barie, Sechchieri, P. Marie, and Marinesco, the two were found coexistent at the first examination of the patient, who could not tell which group of symptoms had commenced first. In a second case of Joffray and in one of Moebius', the symptoms of both appeared at the same time; in Moebius' case lightning pains, diplopia, tremor and tachycardia were all equally marked and had appeared at the same time; Argyll-Robertson, optic atrophy, absence of patellar reflex, Romberg, exophthalmus and struma were found combined at the first examination. In the cases of Lewinek, Timotheef and Mannheim, and in one further case of Joffray the cardinal symptoms of tabes had existed for five years, to be followed by typical Basedow; in one case only was exophthalmus missing. In the further cases of Charcot, Moebius, Deliarde, Wiener, Cohen and Mannheim, Timotheef and Bernhardt, the Basedow antedated the tabes, but it is to be remembered in this connection that the Basedow symptoms are usually first noticed by the patient, incipient tabes being then found on examination.

It is to be noted that in all these cases the specific infection occurred years ago, with the Basedow in all cases years after the infection, appearing in practically all cases shortly before, at the same time with, or shortly after, the symptoms of tabes.

There is not a single case reported, in fact, where the Basedow antedated the specific infection and where in that case tabes-Basedow were found coexistent later, although in several cases struma had existed for years. In my own

cases, Case 1 presented tabetic symptoms antedating the appearance of exophthalmus by 18 years, Case 2 tabetic symptoms antedating those of Basedow by 5 years, Case 3 had suffered from Basedow for 2-3 months previous to examination and at that time presented marked tabetic signs. Without question these have existed for a longer period. Case 4 states having noticed loss of feeling in the distribution of the ulnar nerve 12-15 years ago, exophthalmus since 8 years. Case 5 had had paralysis of the third nerve 6 years ago and had noted symptoms of Basedow in the last few months only. Case 6 had had diplopia a year ago and had noticed exophthalmus with loss of weight since 4 months. Case 7 had noticed the exophthalmus 2 years ago and was found to have objective marks of tabes, whose beginning must certainly be traced as far back as that. Case 8 had well marked optic atrophy, had had diplopia 6 years ago, had had gastric crises 3 years ago; her Basedow symptoms are of only a few months' duration.

These cases form almost a "type picture" and lead to a consideration of the possible relationship existing when the diseases are found in the above manner. Do they exist simply and solely as a chance happening? I think this may be dismissed in view of facts already stated, as extremely improbable. Has one led to the appearance of the other, directly or by an intermediate process? If so, which has favored the development of the other? Have we finally a type of luetic manifestation sui generis?

As to the second question: Curshman has recently reported in two tabetics intermitting symptomatic Basedow occurring with other paroxysmal appearances on the part of the vegetative nervous system, in conjunction with gastric crises and hypertension of blood pressure, the appearance of all the cardinal symptoms of Basedow's disease. V. Malaise has also reported two cases from Marie's clinic. In the opinion of these authors we are dealing with an affection of the sympathetic and have a condition analogous to disturbances of other organs, such as the stomach, depending on disturbed equlibrium of the vegetative nervous system. Curshman believes that we are dealing with a primary tabetic lesion of the cervical sympathetic, which, when it oversteps certain bounds, leads to a swelling and hyper-secretion of the thyroid (in the sense of Abadie, Jannescu and others), which again leads to the thyreotoxic symptom complex of Basedow's disease. Bauer, in a discussion of Curshman's cases speaks of them directly as "thyroid gland crises" appearing as the result of intermittent disturbance of the gland enervation. That the Basedow in these cases in any way favored the appearance of the tabes can be ruled out. None of the cases reported had Basedow extending over many years or appearing occasionally, nor has it ever been proven that any intercurrent disease, acute or chronic, favors the appearance of tabes in a syphilitic, though chronic poisoning, such as with alcohol and nicotine, does seem to act as a factor. While the incident of tuberculous lesions of the lung or lymph-glands is a very high one in the autopsy records on cases of tabes or paralysis (Klippel, Anglade, Calmeil, Seglas, Regis, Goldstein, Marmieres, v. Lucas, Tatusesco and Heilbronner) it seems to me, in consideration of the fact that both tuberculosis and syphilis are so ubiquitous, and that autopsies are more general on tabetics and paralytics as a class, than on any other, most of them dying in state asylums or hospitals, etc., that the coincidence cannot be used in the sense in which Stern attempts to, namely, that there exists a certain bodily habitus peculiar to the majority of tubercular and tabetic patients, and that a coincidence of bodily disposition a priori exists, which renders individuals of this habitus more likely to become tabetics if lues be acquired.

To be considered more seriously in the sense of Stern as expressed by him in "Über körperliche Kennzeichen der Disposition zur Tabes" are his observations on the coincidence of tabes and Basedow's disease.

For the appearance of tabes or general paralysis Stern declares the following triad of factors to be necessary: The "dispositio paralyticans," the luetic infection, and the patho-function of certain glandular organs of internal secretion. He has divided metaluetics into two main groups: that of a tall, rather asthenic type, of weak musculature and sparse hair growth, and into that of a broad-shouldered, muscular, rather hairy individuals. These groups merge into each other in subdivisions: that of the asthenic akromegaloid, the asthenic hairy, the asthenic rhachitic medium height, the muscular broad type, the adipose and muscular adipose type, etc. In these groups he believes to have found certain signs which show that in one group one internal secretory process has suffered derangement of function, or has always over- or underfunctionated, in another group another. For us his remarks anent the disposition to overactivity of the thyroid in one class are of interest. This is the asthenic type; longlegged and of sparely developed secondary sexual characteristics, according to the views of Tandler, Holmgreen and Stern, the result of an overactivity of hypophysis and thyroid gland. Stern believes that this group of tabetics has been subject to a relative hyperthyroidism during years of involution, and as just this group is the one representing the greatest number of tabetics, and as just in this group are mainly found, according to Stern, the combination of tabetic symptoms with those of Basedow, comes to the conclusion that in the development of tabes, as regards this group at least, hyperthyroidism plays a leading rôle.

As opposed to this class, in this regard, stands that of the group of short, muscular, hairy individuals. Here Stern finds no sign or few of hyperthyroidism. In this group fall most of the cases of optic atrophy, cases which in them-

selves are to be differentiated from the asthenic group, in that their tabes is of a relatively mild sort, both as regards subjective symptoms and ataxia. This has also been the course of the cases showing akromegaloid type and tabes, and of this whole class of short, sturdy, hairy individuals, Stern rather believes in a hypophyseal disturbance of function as a leading factor in the development of tabes.

My cases would, according to the hypotheses of Stern then, be explained as tabes developing after a primary luetic infection in individuals suffering from hyperthyroidism. This may not have evidenced itself actively, except in so far as its influence in forming the asthenic group was concerned, until the time of the appearance of tabetic symptoms. In the two of my cases taking iodides, the appearance of hyperthyroidism might then be conceived of as a formerly latent process being activated. Goldflams, Roux, Clark, Pineles, Krehl, have all seen Basedow appear with iodides in tabes incipiens.

In an effort to group my cases according to the formula of Stern, I find that they fall naturally into two divisions; four of them to be classed among the asthenic, four among the broad-shouldered, muscular group. All, however, showed equally the symptoms of hyperthyroidism. It is also true that the three cases of optic atrophy were in the second group. It may not be out of place here to mention that tabetic optic atrophy is found more especially among well developed robust, rather stocky individuals. Four of my cases are women, four men. In the cases collected by Sattler the ratio of women to men stands at about six to one. About 15 women acquire Basedow to one man. This relationship holds in about inverse order as regards tabes. The preponderance of women in the combination of Basedow and tabes might be explained by their greater susceptibility to thyreo-toxic influences, predisposing to development of tabes in a luetic. The total number of cases, however, is too small to permit of any definite conclusions. This can also be said as regards the conclusions drawn by Stern. While his views are interesting, it will need the observation of many more cases before a definite conclusion as regards the importance of his grouping of tabetics can be made, especially as regards the value of them in reference to prognosis and therapeutics.

Two of my cases had been using iodides. Goldflams and others have reported cases of tabes in which Basedow appeared during a course of intensive iodide administration.

One point of clinical importance, therefore, I believe is worth considering in regard to these cases as a group. In tabetic individuals of an asthenic type,—long-legged, tall, meagre, nervous—especially, if they show any mark of hyperthyroidism,—tachycardia, hyperidrosis, glycosuria, dermographism, increased salivary or lachrymal gland secretion, I believe iodides, because of the possibility of Basedow developing in just this class, to be contraindicated.

A definite conclusion as to the course and factors predisposing to the development of the type-picture, cannot, I believe, be made at present. We know that only about 3½% of all syphilitics develop the so-called "meta-luetic" lesions. Explanations of this fact differ and none of them and no combination of them entirely cover the ground. Erb's school maintains that spirochetes are of various sorts, one kind producing a relatively mild lues often followed by "meta-luetic" developments, while infection by another variety may not cause late syphilitic effects. This view is supported by the experiments of Spielmeyer, who succeeded in growing trypanosomes, killing dogs in from six to eight weeks. In cultures from these animals there was obtained a variety which inoculated into dogs produced typical tabetic symptoms; the cultures obtained from these animals produced in the next series of dogs, the effects of the first inoculation, death in from six to eight weeks. It has hence been experimentally shown that trypanosomes can be so influenced as to alternately produce different types of disease.

The other widely held view is that of the importance of the special bodily constitution of the individual, "meta-lues" being the result of a syphilitic affection in a person so constituted. Chvostek especially has pointed out that an individual's constitution is the product of the relationship of his internal secretory activities. It is very possible that through certain changes in increase or decrease of internal secretion a specific reaction to the virus of a certain disease may be called forth; in this manner the varying reactions as regards the luetic virus could be explained, and the occurrence of Basedow's disease concomitant with tabes in certain cases, becomes more intelligible.

The factor of the primary toxicity of the spirochete,—of its tabes developing potential in the sense of Erb,—may play a part. Stern's constitutional moments certainly do, and the possibility of direct tabetic lesions of the cervical sympathetic in certain cases (though this would not account for the entire picture of Basedow's disease) cannot be denied. That the two diseases do interact and in doing so bear a causal relation to each other as also that the combination is not as infrequent and of much greater importance than has been supposed, are facts which may, I believe, be accepted as established.

It is a pleasant duty to thank Hofrat Fuchs for his permission to report these cases as also to acknowledge my thanks to Hofrat Fuchs and to Professor Marburg for advice and criticism.

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OBSERVATIONS ON STERILITY IN THE MALE.*

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THE object of this communication is twofold. First, I wish to point out that in the event of a childless marriage the finger of suspicion points at the woman with shocking frequency. It is almost a reflex act on the part of the physician, to say nothing of the husband. The fault is hers, and even in the absence of some definite abnormality of her genitalia, she falls a ready prey to curette, dilator, or glass plug. Second, I wish to consider, in a general way, the sterile man, and to discuss some of the causes of his sterility.

There seem to be no very accurate figures as to the frequency of childless marriages. According to Huhner (Sterility in the Male and Female, Rebman, New York, 1913), 10% of all unions are sterile. In France the number is put at 20%. But in a general and impersonal investigation of statistics on this point one must not forget that the clandestine, but admittedly widespread use of the many methods for the prevention of conception is a factor of unknown, but immense importance.

Therefore all the material upon which we must base our figures consists only of those comparatively few couples who, anxious to have children, come to the hospital or to the physician's office. Even in such cases there is no general agreement as to the number of times in which the husband is at fault. Hunter (*American Journal of Surgery*, April, 1912) quotes numerous writers whose percentages vary from 1 to 80. Lier and Ascher (cited by Scholtz, *Arch. f. Dermatologie u. Syphilis*, 1910, 101) found the fault to lie with the husband in 71% of the sterile marriages which they investigated. Huhner, in 129 couples, found this figure to be 59%. Kehrer's 40 cases (Huhner, *loc. cit.*) indicted the husband in 35%. S. W. Gross (Huhner, *loc. cit.*) in 192 cases from various authors, found the husband responsible in 17%. Vedder (Huhner, *loc. cit.*), examining 50 husbands, found them sterile in 70%.

In view of these facts it might be supposed that a community such as ours, would proceed with caution under such circumstances. As Belfield (*Journal American Medical Association*, 1912, lix, 1419) aptly says:

"The investigation of childlessness should begin, not with the curettage of the wife, but with the microscopic examination of the husband's semen."

But the facts show the contrary to be true. From one of our largest public hospitals I have collected data of 108 women, in whom a diagnosis of sterility is recorded. Some of these women had been married many years. Three had been married more than once. In justice to the male sex, and to the particular individuals here involved, these patients are not to be included in our statistics.

In 31 cases the records do not contain any statement as to advice or treatment either of the wife or of the husband. Of the remaining 74, 37 were advised to undergo operative treatment, while the remaining 37 actually went through this ordeal. In many this advice was given or an operation performed in the presence of a negative pelvic examination. In only 5 of these 105 women (4.76%) was the husband first examined!

If these operative procedures had led to the much desired pregnancy we might feel somewhat justified. But failure is written in large type over the results. Twenty-five of the women operated upon were followed for a year or more. Only 2, or 6%, had become pregnant or borne children. An attempt to examine the husbands of the remaining 23 cases met with poor success. He rarely can be approached, and

* Read at a meeting of the Obstetrical Society of Boston, December 23, 1913.

even when found to be sterile, usually as a result of his own indiscretions, he shrinks from the comparatively simple procedures which might result happily. However, 4 such husbands were examined. Two were evidently normal in every respect. In the other 2 the semen contained no spermatozoa, and an examination of their genitalia showed evidence of an old gonorrheal infection. One of these men had been married twice, neither wife had ever become pregnant, the present incumbent had gone through two fairly serious operations, yet the husband's powers of procreation had clearly become obsolete years before.

Bearing in mind the figures already given as to the frequency of the sterile husband, it is fair to assume a similar percentage in the cases here presented.

One might suppose that in hospital practice the pressure of work furnished an excuse for an inexcusable blunder; one might further suppose that this does not apply to our private cases. Unfortunately it does. Through the courtesy of several gynecologists, I have now seen the husbands in 40 childless marriages. Twenty were actually sterile. Yet the wives of 4 (20%) of these had had more or less severe operations done upon them before it occurred to the operator that perhaps, after all, the husband was at fault.

While these figures are small, we believe them to be representative, not only of this community, but elsewhere. When it is remembered that a man is so often sterile as a result of his own ignorance, and that the innocent wife very frequently falls a victim, should we not be more careful as to where the blame is placed?

Now as to the causes of sterility in the male. While in women nature seems to be responsible in many cases, in man disease plays the chief rôle. In the event of bilateral undescended testicles Belfield (*loc. cit.*) says that no spermatozoa are formed. On the other hand, Simmons and Odiorne (*Annals of Surgery*, December, 1904) and more recently, McGlannan (*Journal American Medical Association*, February 28, 1914) have observed adult spermatozoa and a normal histologic picture in a considerable number of such organs.

In the rare malformations, such as epispadias, certain types of hypospadias, and exstrophy of the bladder, the spermatogenetic function of the testicle may be and generally is unimpaired, but owing to the nature of the defect, coitus is either impossible, or the semen cannot be ejaculated into the vagina.

There are several non-venereal diseases, which, if they attack the testicle or epididymis, may produce sterility in the male. Of these mumps, especially when occurring after puberty, is the most common, with an incidence of orchitis, generally bilateral, estimated at anywhere from 5% (Keyes Genito-Urinary Diseases, 1911) to nearly 33% (Comby, Osler's Modern Medicine). Atrophy of the testis with destruction of its spermatogenetic function follows in a vast majority of these cases.

When we consider that approximately 15% of the adult male population is infected with syphilis and that this may involve the testicle we are at once confronted with another cause of sterility. Syphilis (gumma) of the testicle is fortunately not common, and is generally unilateral. Keyes (*loc. cit.*) records 67 cases, of which only 10 were bilateral. But even if bilateral, the prognosis, after proper anti-syphilitic treatment, is said to be good. Those portions of the testicle which are not sclerosed may functionate and secrete spermatozoa. Gosselin (quoted by Watson and Cunningham) has found spermatozoa in the semen after the cure of this condition. That a restoration to, or a continuance of fertility under these conditions is of doubtful value to the community or to posterity seems to be clear.

The incidence of abscess of the testicle (usually unilateral) in typhoid is only about 2%. The destruction of the organ may be, and usually is, complete.

Tuberculosis of the genital tract, although primary in the epididymis, and even when unilateral, results in azoospermia in about 85%. This catastrophe is to be explained in part by an occlusion of the genital ducts through early involvement of vas deferens, prostate and seminal vesicles. The prognosis is bad, for a considerable experience has shown that, even if early operation removes the diseased epididymis, its fellow becomes involved within a year in more than half the cases.

The abuse of alcohol is also a potent factor in the production of sterility. Simmonds (Keyes, *loc. cit.*) estimates that 61% of all alcoholics are sterile. But in such a condition of narcotism is it not reasonable to suppose that concomitant diseases, generally those of venereal origin, are far more productive of the sterility than is alcohol? Also may not such a loss of the procreative function be desirable under the conditions? Certain experimental evidence, at least, would seem to bear out this conclusion.

Another possible cause of sterility which does not seem to be mentioned elsewhere, is absolute and protracted continence. This statement, made to me by a colleague, is based on the case of a man who was married fifteen years ago. At this time healthy spermatozoa were found in the semen. For reasons best known to themselves the couple have abstained from sexual relations, and there have been no intercurrent diseases. A recent examination of the husband shows azoospermia.

It also seems to be a fact that the otherwise healthy testes of normal, active and sexually vigorous men may occasionally be entirely unproductive of spermatozoa. I have recently been told of such a case occurring in the practise of one of my colleagues, and both Belfield (*loc. cit.*) and Janet (L'Assoc. Franc. d'Urol., 1909, xiii) mention similar examples. The possibility in

such cases of a congenital atresia of the spermatic ducts is not to be disregarded.

Another source of sterility of considerable importance is repeated and prolonged exposure (especially of the genitals) to the Roentgen ray. Those affected therefore, are physicians, x-ray workers, and patients to whom this has been prescribed as a therapeutic measure for other conditions. Brown and Osgood (Trans. American Association Genito-urinary Surgeons, 1907) carefully investigated this question and found, among other things, that (1) spermatozoa themselves are highly resistant to the x-ray, (2) the spermatogenetic cells of the tubules of the testis show degenerative changes, (3) there is no deterioration of sexual activity produced. These investigators also found that in a very small percentage of cases fertility may return after removal of the offending cause.

Infection by the gonococcus is by all odds the most frequent cause of male sterility. From a numerical standpoint all other etiological factors fade into insignificance. The disease is so widespread that statistics collected from various sources place the incidence at from 50 to 75% of the adult male population. It is also well established that prostatitis, generally with more or less involvement of the seminal vesicles, occurs in the vast majority of cases.

The involvement of these organs may result in sterility, a point on which there seems to be general agreement. If the site or severity of the inflammatory process is such as to disturb the patency of the ejaculatory ducts, there will be either azoospermia or oligospermia, depending upon the degree of closure of these structures. When one considers the small calibre of these ducts, their proximity one to the other, and the relation of their orifices to the prostatic urethra, where the inflammatory process is at its height, such an outcome is not to be wondered at. On the other hand, one might well ask why sterility from this cause does not occur with greater frequency. But the procreative capacity of the husband is done away with in prostatitis in another way as well. In such cases there is frequently found asthenospermia, the semen containing a few weakly motile or abnormally shaped spermatozoa, or necrospermia, where these bodies are absolutely motionless, tightly curled on themselves and abnormal in size or shape. These changes are to be accounted for by an alteration in the reaction or composition of the prostatic or vesicular secretion. Just what this change is, or in which organ (prostate or vesicles) it arises, we do not know. But we do know that spermatozoa are killed or inhibited in an acid medium, while they thrive in an alkaline medium. It is probable that in addition to other chemical changes there is sufficient combined or free acid in the secretion of these glands to deprive the spermatozoa of their vitality. Further knowledge, based on scientific, rather than on empirical principles, is much needed before we can discuss this point intelligently.

A fourth complication of gonorrhea following close upon the heels of prostatitis is epididymitis. Its incidence is considerable, Finger (Blenorrhea of the Sexual Organs and Its Complications, Trans. 3rd ed. 1894) reporting 29% in 1844 cases of gonorrhea. While involvement of one side (usually the left) is the rule, the opposite side becomes affected in no small number. In the latter event the percentage of sterility (azoospermia) is exceedingly high. Finger collected 242 such cases from different authors and found azoospermia in 92%. The figures of other authorities, while not so high, give us reason to regard the incidence of sterility in men so affected as 75 or 80%. This unfortunate result is due to occlusion of the genital duct, usually at the lower pole of the epididymis, but often at other points as well. While such a condition would appear to be hopeless, the ingenious operation devised by Martin, of anastomosing the vas deferens to an uninvolved portion of the epididymis, has resulted happily in a large number of cases.

But unilateral epididymitis is not without its drawbacks. Emödi in 31 cases found azoospermia in 9, and the investigations of Benzler (*Arch. f. Derm. u. Syph.*, 1898, xlv) are significant. The latter followed the subsequent history of German soldiers who had had gonorrhea, and who had been married three or more years. Of those without epididymitis 10.5% were childless. Where there had been unilateral epididymitis the percentage rose to 23.4%, while in the bilateral cases sterility obtained in 41.7%. Azoospermia in unilateral epididymitis is to be explained, not alone by a blocking of the genital duct on the opposite side, probably at the prostatic orifice, and without clinical evidence of its occurrence, but also by the prostatitis and vesiculitis which accompanies it.

Finally, gonorrhea may result in sterility by the production of a stricture of the urethra. When its calibre is so decreased as to prevent the free ejaculation of semen into the vagina the results are not difficult to explain. Also it must not be forgotten that behind every stricture there is a more or less well marked prostatitis, and we have seen that this in itself is capable of producing sterility.

I wish now to consider briefly my own experience with sterility in the male, of which, as already stated, I have seen 20 cases. The semen of 10 contained no spermatozoa after one or more examinations One was a case of tuberculosis of the epididymis (unilateral), upon whom I finally operated, but whose initial symptoms had appeared eight years previously; one gave a history of some obscure scrotal swelling (probably mumps) years previously, and with marked atrophy of both testes; in a third, gonorrheal prostatitis and vesiculitis of long duration, and with numerous exacerbations, together with a pronounced atrophy of each testicle of

undetermined cause, was responsible for the condition. In the other 7, bilateral epididymitis of gonorrheal origin was to blame. In all there was also found a well defined prostatitis, the secretion containing much pus.

Six of my cases were found to have oligo- or necrospermia, or both. In 4 of the 6 there was a purulent prostatitis, one associated with an old bilateral epididymitis. The latter, occurring in a middle aged man, in whom no objective or subjective evidence of gonorrhea was found, was undoubtedly due to infection with the colon bacillus, a not infrequent occurrence. The other 3 had been produced by the gonococcus.

The semen of the 2 remaining cases contained only a few immobile and abnormally shaped spermatozoa. Careful examination and inquiry revealed no cause for the condition.

Four more of my series showed a peculiar intermittency in the presence of spermatozoa. None of them had been able to procreate even after years of marriage, and with wives pronounced normal by one of our most eminent gynecologists. At the first, second, and in one or two, the third examination of the semen, no spermatozoa, living or dead, were to be found. On the next occasion the specimen was swarming with myriads of them. Still later, spermatozoa were conspicuous by their complete absence.

One of these was a pronounced alcoholic, but young, and otherwise apparently normal. It seems likely that John Barleycorn furnished the answer.

In another there was a large left varicocele, with marked atrophy of the corresponding testicle.

In the third nothing could be found but a slight degree of prostatitis. In this case the first specimen of semen was sterile, and the second normal.

Lastly, a man with a small spermatocele and a generally cystic feel to the epididymis on the right side. The first sample of semen showed one or two dead spermatozoa. A week later it contained absolutely none. Two weeks later a similarly negative report was given me by Dr. E. L. Keyes, Jr., of New York, to whom I had referred the case. At the end of another week the news came to me that countless active and normally shaped spermatozoa had been found.

Finally, it is of interest that of the four private cases whose wives had already been operated upon, only one was found to produce spermatozoa. In two of the others a bilateral gonorrheal epididymitis excluded all possibility of procreation without previous operation. In the fourth the testicles had been put hopelessly and forever *hors de combat* by an attack of mumps in early manhood.

In closing, it seems worth while to state briefly the method which I have found to be efficient in the examination of such men. A careful history, with special reference to the causes of sterility already mentioned will often give the clue at once. The man's sexual life should also be inquired into. Physical examination involves a rigid routine. The external genitalia are first carefully examined, especially epididymes and testes. Urethral discharge is looked for. The anterior urethra is irrigated with boric acid solution. The patient then urinates in two glasses, that in the first glass showing the condition of his posterior urethra. The urethra is calibrated for stricture. The bladder is filled with boric solution and a rectal examination made to determine the condition of prostate and vesicles. These organs are then gently but firmly massaged. In most cases this serves to express enough secretion to drip from the meatus. Two drops of this are placed on separate slides, one being examined at once for spermatozoa. If numerous and active, the hand of suspicion must then point elsewhere. To the second specimen is added a drop of acetic acid (36%). This is examined for its cell contents, and here the nuclei are so well stained by the acetic acid that one has no difficulty in distinguishing pus from round cells. The presence of pus indicates a prostatitis of greater or less severity. The absence of spermatozoa, however, does not indicate sterility. In the latter event the man is instructed to have intercourse wearing a condom of the thin membrane variety ("beaters skin"). After ejaculation he is instructed to remove this gently from the penis and to place it at once in a wide-mouthed bottle of warm water, keeping its contents from spilling by jamming the open end of the condom between the cork and the bottle. This should be examined at the earliest possible moment after ejaculation, meantime keeping it warm to insure the vitality of the spermatozoa. While haste is advisable, if instructions are carried out, I have found spermatozoa of great activity as long as ten hours after intercourse. If the first specimen is negative, ask for another, and even a third, but be sure that several days or a week of sexual abstinence elapse between. I regard three specimens as the least on which to safely base an opinion.

It will be seen that I have dwelt in this paper upon three points. First, the prevalence of sterile marriage, and the unjust and often unwarranted indictment of the wife; second, the main causes of male sterility have been discussed, and it has been shown that in a great majority of cases venereal disease is the underlying factor; and third, the method of determining the presence or absence of sterility in the male. A fourth point, one of vital importance, dealing with the prognosis and results of treatment in the various conditions enumerated, has been intentionally omitted. It is our purpose to deal with this at greater length in a subsequent communication.

This experience, although brief, is not without its lessons.

1. The cause of sterility in man is due to venereal disease (generally gonorrhea), in the vast majority of cases.

2. Oligospermia or azoöpermia may occur without obvious cause.

3. The production or ejaculation of spermatozoa may be intermittent for reasons as yet unknown.

4. A single examination of the semen is insufficient. At least two, perhaps three or four specimens, each taken after a considerable period of sexual continence, must be seen, before a prognosis can safely be given.

5. Marriage may continue to be sterile even with the finding of active spermatozoa in the husband, and a normal genital tract in the wife. Experience has shown us all that for some reason best known to herself, Nature delays procreation often for years.

6. It is noteworthy that in no case of male sterility regardless of the cause, is masculinity in the least impaired. This is to be explained by the fact that even though the spermatogenetic function of the testicles is inhibited, the internal secretion continues in full force.

STATISTICAL NOTES ON A SERIES OF 6000 WASSERMANN TESTS FOR SYPHILIS PERFORMED IN THE HARVARD NEUROPATHOLOGICAL TESTING LABORATORY, 1913.

By E. E. Southard, M.D., Boston,

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The value of the present series of Wassermann tests is enhanced by the interest which the laboratory officers have taken in the clinical diagnoses of the cases tested and by the courtesy with which the clinicians submitting specimens have given important data.

Since the Harvard Neuropathological Testing Laboratory is not a commercial institution and has performed much charity work in addition to its other work (paid for virtually at cost), a spirit of cooperation has grown up which has helped in the solution of many problems of individual diagnoses.

The Testing Laboratory, of which the last year of work is here summarized, was, I believe, the first to be established in Massachusetts to make use of the ingenious discovery of Wassermann, and, since it has been in continuous action under its various heads, (1) Professor F. P. Gay (now of the University of California) who established the standards since maintained, (2) the late Dr. Emma W. D. Mooers, who brought to the work a great interest in both the technique and the clinical significance of the tests, derived from her work with Plaut in Munich, (3) Professor W. P. Lucas, (now of the University of California) who turned his attention to numerous clinical problems, not only of children, but in general, and (4) their successors (see below), the Laboratory has had a very varied experience and has sustained most of the shocks which the numerous pitfalls of the test provide. The result has been an increasing confidence in the tests as made, and fewer and fewer complaints of lack of congruence between the results of the tests and clinical findings, especially when these latter are reviewed.

My own interest in the tests was in the first instance psychiatric and neuropathological, and I believe that the laboratory would hardly have survived, had it not been for the interest in these tests taken by the state institutions for the insane. The work published heretofore, based on this laboratory's tests, has been largely psychiatric, as the following titles illustrate:

Lucas, W. P. The Wassermann Reaction in its Application to Medicine. Boston Medical and Surgical Journal, clxix, 1913, No. 4, pp. 116-121, July 24, 1913.

Paine, H. L. Results of the Wassermann Test in Two Hundred Consecutive Admissions to the Danvers State Hospital. Boston Medical and Surgical Journal, clxviii, No. 14, pp. 501-503, April 3, 1913.

Morse, M. E. Correlations of Cerebrospinal Fluid Examinations with Psychiatric Diagnoses: A study of 140 Cases. Boston Medical and Surgical Journal (in press) Worcester State Hospital Contributions No. 20, 1914.1.

I believe the value of the Wassermann reaction will always remain even more critical in the neurological arts than in those of the syphilographer who has so many more clinical data immediately accessible to him. It is to be hoped that some state agency will take over the entire task of Wassermann-testing on a scale commensurate with its value. If so, it is the experience of the present Laboratory, which has been virtually supported by cooperation of several of the larger hospitals for the insane, that psychiatric and neurological cases will absorb the lion's share of attention, although from time to time many series of sera will be submitted by physicians having special therapeutic tests (salvarsan, neosalvarsan) in hand.

There are Wassermann tests and Wassermann tests! In comparing our results with others, we often find tests described as Wassermann tests which are somewhat essentially different therefrom. Needless to say some workers omit various precautions and controls which are essential to reliable work. To make clear the policy of this laboratory, which has been managed in common by the writer, by Professor H. M. Adler, and by Dr. Annie E. Taft under the Department of Diseases of the Nervous System of the Harvard Medical School, I propose to set down (without description) the steps, precautions, and controls used in the series of tests, which are now being executed by Dr. W. A. Hinton.

(A.) *Materials*:

(1) washed sheep corpuscles, 5% suspension, 5 c.c. to tube.

(2) antisheep amboceptor, 2 units.

(3) complement (guinea-pig serum, 10%), 2 units.

(4) patient's serum inactivated at 56,° 0.1 c.c. with each antigen.

(5) antigens (a) human heart reinforced with cholesterin (0.1 c.c.)

(b) human heart reinforced with cholesterin (0.05 c.c.)

(c) alcoholic extract of syphilitic fetal liver (0.25 c.c.)

(B.) *Controls*:

(1) antisheep amboceptor unit tested daily.

(2) Compliment unit tested daily.

(3) 0.2 c.c. inactivated patient's serum used in addition to test with 0.1 c.c.

(4) each specimen tested with three antigens.

(5) control to exclude the (rare) occurrence of natural hemolytic power in complement.

(6) same hemolytic power in amboceptor.

(7) same, salt solution.

(8) control sera six in number (strong positive, slight positive, negative; each antigen doubled in amount.)

(C.) *Remarks*:

(1) period for fixing complements, 1 hour.

(2) doubtful cases repeated with double amount of serum and appropriate controls.

(3) cerebrospinal fluids used in five times the amount of sera.

(4) attention may be called to the "slight positive control (v. B., 8 above) which prevents many slightly positive cases from being overlooked on a given day.

(5) attention is especially called to the use of *three* antigens (This is not usual in many American laboratories), excluding technical error, perhaps indicating slight quantitative changes in a given patient's reaction, and excluding certain false positions.

(6) supervision and control, (highly important where so important a diagnosis as syphilis is being rendered) are obtained by the direct contact of (a) secretary, (b) technician, (c) laboratory boy, in addition to medical expert diagnostician (during 1913, Dr. W. A. Hinton) under general direction of Dr. Annie E. Taft, Custodian, Neuropathological Laboratory, Department of Neuropathology.

GENERAL STATISTICS.

Total Wassermann tests, 1913		6139
Blood sera	5282	
Cerebrospinal Fluids	857	
Total tests repeated		228
Blood sera	186	
Cerebrospinal Fluid	42	
Total individual blood sera		5096
Cerebrospinal Fluids	815	

An important question is always raised by tests which have to be classed as doubtful in result. These doubtful tests occupy a large share of attention and inspire requests for new specimens. I was surprised to learn the low percentage of such doubtful results when all the tests were summed up. The percentage (2-4%) is somewhat like what might be expected of a biological test. The fact that there are more such doubtful tests in sera than in cerebrospinal fluids signifies doubtless the larger number of confusing substances in the blood as well as other technical difficulties. The figures follow:

Total blood sera	5282
"Doubtful" results (4%)	202
Total cerebrospinal fluid	857
"Doubtful" results (2%)	19

It may be properly inquired what is the result of repeated tests in connection with these "doubtful" cases. The following table demonstrates cases in which a change in result was registered involving "doubtful" tests in sera:

"Doubtful" became negative	17
Negatives became "doubtful"	4
"Doubtfuls" became positive	2
Positives became "doubtful"	5

This table would incline one on statisical grounds to prefer to call "doubtfuls" negative. Suppose we look at a group of non-"doubtful" cases to see how they turn with repeated tests.

Negative cases become positive (of which 3 had also been postive also before the initial negative and one had been "doubtful.)"	15
Positive cases become negative (of which three became positive again later and one had been negative before the initial positive.)	33

If we leave out the anomalous examples of one dissimilar test in a triad, we arrive at

Negative cases become positive	11
Positive cases become negative	29
Comparing this with data above:	
"Doubtfuls" become positive	2
"Doubtfuls" become negative	17

we see that, statistically at least, "doubtfuls" resemble negatives more than positives. This also confirms the qualitative suspicions of many workers. Nevertheless it must be pointed out that this general trend toward negative is partly due to natural immunizing or spirochaete-destroying factors at work in the individual and partly to therapeutic efforts.

The figures with respect to "doubtfuls" and changes of reaction in cerebrospinal fluid are as yet too small to make tabulation profitable.

If we exclude "doubtful" tests and limit consideration to the positive and negative tests alone, we have the following denominators:

Blood sera	5096
Cerebrospinal fluids	815

Concerning these blood sera in our laboratory it is not at all certain that they represent the community fairly; indeed it is highly probable that they are a picked class of sera derived from patients in whom syphilis was seriously suspected.

Positive blood sera (23%)	1161

And it is certain that the cerebrospinal fluids are a still more highly selected class

Positive cerebrospinal fluids (33%)	267

It is an interesting speculation to consider how far this 33% of positive cerebrospinal fluids represents the chance that an "organic" disease of the nervous system has of being syphilitic.

From the community's point of view it is clear that the percentage of outstanding syphilis is not so high as alarmists have sometimes thought. It is probable from such data as these that the percentage of syphilis in the community is far below 23%.

A curious fact is illustrated by the figures from the Worcester State Asylum, a transfer institution for chronic patients. This institution harbors syphilitics (3 in 103) not quite to the extent of 3% (2.9%.) Here is a community from which the luetic organic cases have largely never been sent. The chances are that this percentage is lower than that of the community at large.

On the other hand, if we consider the girls of the Massachusetts Reformatory for Women, we find the extraordinary percentage of 44, that is, 112 positives in 254 cases.

Some facts concerning the Psychopathic Hospital data were worked up more particularly for the benefit of the White Slave Commission, and the following paragraphs are reproduced from a report to Dr. Walter E. Fernald, Chairman of that commission.

"I. The general average for the whole state of cases thought by the hospital physicians to be due to syphilis is 5.49% for the three years 1910-1912, and 6.28% for the year 1912 itself. This figure can be safely stated to be far too low because the average percentage of general paresis during the same three years (1910-1912) was 8.43% (for 1912, 8.65%.) This latter figure is also beyond question too small since a certain proportion of coarse brain lesions of epileptic insanities and of imbecilities are undoubtedly due to syphilis, although they are classified outside the syphilis group in the figure presented by the Board of Insanity from which I make the above extracts.

"II. The best information available to me as to the general percentage of syphilis to be found in mental cases is that afforded by our experience at the Psychopathic Hospital covering 1671 separate random tests on different persons. 264 of these 1671 persons were determined to show syphilis so far as the Wassermann reaction carried out under the precepts of the original method can be trusted. I consider that there is no better set of data available for Massachusetts. This will be found to work out a percentage of 14.7% for our Psychopathic Hospital intake. I think our Psychopathic Hospital intake may be regarded as more representative of the general population than any admissions in previous years to other insane hospitals. An indication of this for example, is the fact that we discharged 250 persons during the last year alone as "Not Insane" although every one of these cases presented some kind of mental problem. It is rather curious that the percentages which we here work out, viz., approximately 15%, correspond to the idea prevalent I believe among dermatologists as to the general percentage in the community which they deduced from cases resorting to skin clinics.

"III. In a series of random "organic" cases 321 in number, I found cerebrospinal fluids positive in 118 cases or about 37%. You will of course wonder how I determine cases to be "organic." My general policy has been to have examination of the blood serum made in all cases having severe mental symptoms. If the serum is positive, I proceed as a rule to an examination of the cerebrospinal fluid by the Wassermann and other methods, believing it to be of importance to determine whether a case is one of General Paresis or of some other form of cerebrospinal syphilis. In case the serum is negative but the patient shows signs of disorder in the projection system, or as we say, looks "organic," then I proceed to a cerebrospinal fluid examination, despite the negativity of the serum. It is from these two groups that my random organic series of 321 cases is made up."

Following is not intended as a complete account of the Wassermann technique but only to record the particular materials and main steps used in this laboratory in 1913, so that it may be known exactly what we mean by "Wassermann" tests.

SUMMARY.

1. On account of the varying standards and criteria which have held or will in future hold in the matter of Wassermann tests for syphilis, it has been thought wise to summarize the materials, controls, and special precautions used in the Harvard Testing Laboratory.

2. General doubts are often raised as to the reliability of Wassermann's test on account of the "great number" of "doubtful" reactions; this "great number" resolves in our large series to 4% of the blood sera and 2% of the cerebrospinal fluids.

3. On statistical grounds we find the "doubtfuls" resolve much more frequently into "negatives" than into "positives."

4. 23% of all sera examined were positive, and since the cases are in many instances picked as likely to be positive, this percentage is doubtless much higher than the community's total percentage.

5. 33% of all cerebrospinal fluids examined were positive. The principle of selection of these cases was such (positive serum or symptoms of "organic" nervous or mental disease) that the result is of practical value, stateable as follows: The chances of a syphilitic origin for a case of "organic-looking" nervous or mental disease are not more than one in three.

6. The Massachusetts Reformatory for Women yields 44%, a partial index of the infected nature, though not necessarily of the infectivity, of prostitutes and other delinquent women.

7. The Danvers State Hospital (for the insane) yields between 19 and 22% positive sera in its routine intake of cases from Essex County.

8. The Worcester Asylum, a transfer institution (to which are transferred chiefly *non*-paretic cases), yield less than 3% positive. If this percentage should be maintained in future work, one might infer that, from the group of persons in the community with insane tendencies and infected by syphilis, cases are drained off into the frankly paretic group, in such wise that a population of asylum *transfers* will be likely to show a *low* syphilis index. But this conclusion can be only tentative on account of many other issues.

9. The Psychopathic Hospital index (15%) is perhaps somewhat closer to the general community index than the others just mentioned on account of the large number of cases "not insane" that are tested, but it is evident that 15% would be too high an index to assign to the syphilis of the general population.

10. Aside from its capacity to solve problems of individual diagnosis, the Wassermann method is obviously of such value to the community that a community Wassermann service might well be undertaken by a state agency such as the Board of Insanity or the Board of Health.

CYSTITIS—AN INCOMPLETE DIAGNOSIS.*

BY BENJAMIN TENNEY, M.D., BOSTON.

Surgeon to the Boston Dispensary.

THE number of proprietary and semi-proprietary remedies for "cystitis," "catarrh of the bladder," "inflammation of the bladder" which are advertised to the profession and to the public is equalled only by those for "indigestion," "dyspepsia," and "rheumatism." This can mean but one of two things, either the profession fails to make a complete diagnosis followed by curative treatment or else the condition leading to the symptoms is either extremely resistant to treatment or incurable.

People in pain and with physical handicaps go to some doctor at some stage in their disease as a rule. If they are then told what they already know and given some treatment from which they obtain but little relief, they try other men or clinics until they are relieved or they class all medical help as futile and turn to proprietary medicines or extra-medical delusions. It has been said before that the list of remedies for a given disease was a fair indication of our uncertainty in the treatment of the disease, and it may be said with equal truth that the number of proprietaries and semi-proprietaries advertised as cures corresponds somewhat with the failure of the general profession to promptly and permanently relieve the pains and other handicaps of people who are not well.

Some things are still beyond prompt or permanent relief, but more human ails are controllable now than ever before and a large part of our gain has come from perfecting our diagnosis. A completed diagnosis based on findings apart from the patients' statements and not inconsistent with the statements leads to a choice between a small number of therapeutic measures —often to a choice between mechanical treatment or none.

An incomplete diagnosis leads nowhere, but leaves both doctor and patient in a fog of uncertain and changing therapeutics until nature kills or cures.

To return to the title of this paper, the diagnosis of cystitis is made on one or more of the following symptoms and signs.

1. Frequency of urinating.
2. Pain in connection with urinating.
3. Pus, red corpuscles, and shreds in the urine.
4. Tenderness of bladder to pressure.
5. Appearance through cystoscope.

Three of these can be studied apart from the patient's statements.

1. Frequency in urination depends on the distensible capacity of the bladder quite as much as on the rate of kidney excretion. In urinary tuberculosis and some stages of urethral ob-

* Read before the Somerville Medical Society, May 7, 1914.

struction the actual capacity of the bladder may be reduced to an ounce or less. If the bladder with prostatic or stricture obstruction holds sixteen ounces and always has a residual of twelve ounces its distensible capacity is only four ounces, and as soon as the kidneys have secreted four ounces of urine it calls for relief. If a bladder is in spasm from ureteral irritation its distensible capacity may be a few drachms for some hours and then return to normal. We read and hear of "irritating" urine, and "too acid urine." Both may exist, I do not know, but I have yet to find the patient whose bladder will hold much more warm boric solution than it did of the urine previously expelled from his full bladder.

The common experience of us all in health is that in cold weather with little or no perspiration and dilute urine we empty our bladders more frequently than in hot weather with free perspiration and concentrated urine, unless we make up for perspiration by extra drinking of fluids. The experience of travellers in the desert and of sailors and others deprived of drinking water for long periods indicates that the concentration of the urine has little or no effect in increasing the frequency of urination. On the other hand, most of us know that apprehension or fright will increase the frequency more than can be accounted for by increased kidney secretion. Here the distensible capacity of the bladder is diminished for the time, but returns to normal when the excitement is over.

The distensible capacity of the bladder in health is not absolutely constant owing to the central nervous disturbances. It is also altered in certain cord lesions and in diseases which affect consciousness.

Apart from these extra vesical influences each individual has a normal capacity of his own, which in health will determine the frequency of his urination. In general one whose comfortable distensible capacity is sixteen ounces will have no night urine unless he takes a quantity of fluid during the evening, while one with less or with the habit of evening drinking will probably urinate during the seven or eight hours reserved for sleep. Any condition that diminishes this distensible capacity of the bladder will increase the frequency. External tumors will do it while the bladder remains healthy. Internal tumors by obstructing the urethra and causing hypertrophy of the bladder wall, by their own bulk and perhaps by irritation of the cord centre, will accomplish the same result. Foreign bodies in the bladder may act in precisely the same way. Ulcers of the bladder mucosa probably act on the cord centre only.

My observation has been that any process either above or below the bladder which disturbs the muscle bundles, which are continuous with the longitudinal fibres of the ureter, is associated with the desire to urinate. There is a point just below the internal meatus, where the muscle bundles from the left and right ureters meet and the touch of a sound here brings on the desire to urinate. Inflammation and growths at this point produce the same sensation. This must be a reflex from the cord centre corresponding to the natural impulse to urinate, which is said to be due to the upward pull of the distended bladder on these same muscle bundles. If this be true then any condition pulling on this area will probably cause the same sensation and a hypertrophied ureter wrestling with a calculus, or inflamed by extension of a pyelitis or tied down by adherent appendix or dragged upon by a prolapsed uterus may give the sensation. We find all these conditions accompanied by frequent urination.

Another type of frequent urination is seen in patients who have a weak sphincter and accustom themselves to the habit to avoid the annoyance of incontinence. This is not uncommon in women who have some injury to the urethra during childbirth. Frequency in urination is a poor reason for the diagnosis of "cystitis" without eliminating these other causes for the same symptom.

2. Pain with urination may precede, accompany or follow the act. Preceding the flow it indicates that the distensible capacity of the bladder has been exceeded. Pain during the flow indicates that some inflamed area is being altered in its relations, pulled upon, compressed, or dilated. Pain after the flow is often due to a spasm or cramp of the bladder wall as it responds to an over-stimulus for contraction and any severe inflammatory condition within the bladder wall or the first part of the urethra or the lower portion of the ureter may cause this.

The diagnosis of cystitis from the symptom of pain is not fair to the patient until the possibly serious conditions above, within and below the bladder have been eliminated.

3. Pus, red corpuscles, and shreds in the urine must be seen in catheter specimens from a female and in "second glass" specimens from a male to be considered in this diagnosis. In such specimens the presence of pus and blood indicates trouble, but has no localizing significance, as the source may be in either kidney, either ureter, or the bladder. Shreds showing papillo matous arrangement suggest bladder growths, but tumor cells may sometimes be identified with no clue to their exact source. Pyuria and hematuria are the cardinal symptoms in new growths, lithiasis, and destructive infections of the kidneys and ureters, and a diagnosis of cystitis in the presence of such findings without careful elimination of these dangerous conditions is unfair to the patient and unwise of the doctor from every point of view.

4. Tenderness to pressure in the region of the bladder is misleading. In the male it is confused with tenderness of the seminal vesicles and prostate. In the female, tenderness of the ureteral insertion is a well known indication of inflammatory condition higher up on the same side. Tenderness of infected Skene's glands

may be confused with bladder tenderness as may the inflammatory conditions in and about the broad ligament. Tumor and stone are often causes of exquisite tenderness. The over-distended bladder may be sensitive, but after relief is usually free of all reaction to pressure. As a leading symptom of cystitis it is seldom mentioned and as a confirmatory symptom it is almost worthless.

5. The appearance through a cystoscope is the only finding upon which a diagnosis of cystitis can be made, and the more cases one observes through this instrument the more rarely does one make the diagnosis of cystitis without some really anatomical cause. Red, thickened, bleeding bladder mucosa is sometimes seen, but with these findings we find urethral obstruction, or bladder tumors, ulcers, foreign bodies, diverticula and distorted ureteral orifices, or we search further with ureteral catheter and x-ray until the disease which produces the symptom—cystitis—is found.

We all know that there are many individuals who have these conventional symptoms of cystitis at some time, and others who have recurring attacks. We know, too, that tuberculosis and other destructive infections above and below the bladder, stones, and tumors of the most serious nature first make their presence known through these same symptoms, which are often intermittent. If such a case is seen when symptoms are active and the diagnosis of cystitis is made, the decline of symptoms may be credited to the last drug given, when it is merely what may be called the "negative phase" of the disease. Neither patient nor physician is wiser as a result of the experience, but both are deceived.

The diagnosis of cystitis deserves a place in medicine with "peritonitis," "rheumatism," "gastritis," "neuralgia," and many others which have been resolved into their proper component parts. The sooner we banish it from our own and our patients' vocabularies, the sooner will we make complete diagnoses and deal fairly and honestly by our patients, and the sooner shall we close another avenue through which the patent medicine man gains at the expense of our imperfectly treated, because imperfectly diagnosed patients.

It is easy to cite cases to illustrate the unnecessary suffering and finally crippled condition into which some victims of this diagnosis fall. The most unfortunate have been those with tuberculosis of the kidney.

One such, a man of 32 came in July, 1909, with a story of "inflammation of the bladder" for two years. He had been dosed, his bladder had been washed, he had taken gallons of water and had even spent six weeks in bed with a cystotomy wound to relieve his cystitis. While he made a good recovery from his nephrectomy and has gained thirty-five pounds in weight, his bladder is so contracted by the constant irritation through the inflamed ureter that it is doubtful if he ever recovers a comfortable capacity or normal intervals of urination.

A second was an Italian of 36 who had spent all his savings on pills and potions and local treatment for a period of five years. He was wasted with pain and lack of sleep and had been in bed a month. In the course of his search for health he had had a testicle removed for tuberculosis. A nephrectomy relieved him of most of his pain, he gained forty pounds in weight, worked for nearly a year and then died of some other disease.

A third was an active business man of 38 whose symptoms had existed for two years. Among all the medical men he consulted, one only had told him he had a tubercular kidney and he had seen many and those of good standing. All others told him he had chronic cystitis and treated him therefor. He recovered from his nephrectomy, and lived some months in comparative comfort, though his wound broke down and he had reflux urine through the ureter stump. A reasonably early diagnosis and nephrectomy would have made him an active man for years, to say nothing of the suffering he would have saved.

A fourth was a woman of 35 who had been from one physician to another and then to hospital for pelvic surgery to relieve her right-sided pain and cystitis during a period of three years. A completely destroyed kidney was removed six years ago and today her bladder will hold twelve ounces of fluid and she often sleeps the night through, instead of rising every half hour.

A fifth gave a history of cystitis in 1906, lasting about two weeks and cured by buchu, a recurrence in 1908 cured by tablets, in the meantime a pelvic operation and "cystitis from catheterization" during her convalescence. A left tubercular kidney was removed in 1910 with immediate relief of her pain and gradual return of her bladder to normal function.

Almost every patient with tubercular kidney gets a diagnosis of inflammation of the bladder unless he happens to consult a urologist first, and yet if there is any disease besides cancer where early recognition and treatment is the patient's surest way to avoid suffering, that disease is tuberculosis of the kidney.

Of the cases of stone and cystitis, the most striking among my patients was a woman of 72. Pain and frequent urination amounting to incontinence had been her portion for forty years. I do not know what diagnosis her physician made, but he fitted a leather covered metal plate, eight inches in diameter, held by straps about her body to press on her lower abdomen. This she had worn faithfully and hardly stepped off her piazza for the last twelve years. An observing nurse called my attention to her urinary frequency and a glass catheter made the diagnosis as a specimen of bladder urine was being drawn. With the stone removed her life has been transformed, but the bladder will never get back to the normal capacity. Her relief came too late.

Patients with urethral obstruction whether from stricture or hypertrophied prostate, form another group that suffers from the diagnosis of "cystitis." Most have the symptoms, but they are in worse case than patients with "neuralgia" from an ulcerated tooth, "gastritis" from a gall stone, "rheumatism" from a dislocated semi-lunar cartilage, and "peritonitis" from a perforation in the intestines because there is no hope of spontaneous relief, which may possibly, though it does rarely, occur with these other conditions.

To give cases illustrating the common delay in proper diagnosis and treatment of these conditions one has only to turn to his records of prostatic enucleations and operation for stricture. They vary only in the length of time the patients have suffered waiting for a complete diagnosis. These details are unnecessary and within the personal knowledge of almost every practitioner, and the diagnosis of urethral obstruction is so easily made that any delay in reaching it seems inexcusable.

Patients with new growths in the kidney and bladder form the most important, though the smallest, group of sufferers through the diagnosis of cystitis. If any relief is possible for these patients, diagnosis must be made early and treatment promptly applied. A few months may make the difference between a hopeful and a hopeless case.

Fortunately there is a growing appreciation of the seriousness of frequent urination, painful urination, hematuria, pyuria, and the other urinary symptoms, both within and outside the medical profession. Patients are demanding permanent relief from their pains and disabilities, and physicians are fast giving up the old theoretical pathology, which was made to fit the symptoms, for the modern pathology of the living.

A STUDY OF EXTRA-PULMONARY AND OTHER SOUNDS WHICH MAY LEAD TO ERRORS IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.

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In this paper I shall discuss certain sounds, not due to tuberculosis or any pulmonary disease, but to physiological processes, which sometimes lead to confusion in the diagnosis of pulmonary tuberculosis. These sounds may cause errors in diagnosis, either by simulating râles or else by obscuring the breath sounds or such râles or other abnormalities as may be present. The conclusions which I have reached in this matter are based on a study of 250 patients seen during the past eighteen months in private practice and in my clinic at the Massachusetts General Hospital. There has been no selection of cases although the greater number were patients in whom pulmonary tuberculosis was present or suspected. I have undertaken this work not to investigate in detail the exact nature and cause of these sounds and the various conflicting theories concerning them, but to find out as far as possible how large a factor, to the general practitioner, such sounds may be in making his diagnosis of chest conditions and, of special importance, how errors due to such causes may be avoided. The sounds here considered are as follows:

1. Muscle sounds.
2. Joint sounds.
3. Tendon or bursal sounds.
4. Atelectatic râles or crackles, otherwise known as marginal sounds.

Muscle Sounds. A detailed description of muscle sounds is unnecessary. In any text-book on physical examination or diagnosis a full description of their nature and origin will be found. In brief, muscle sounds may take the form of a low pitched rumble or roar so loud as to obliterate all breath sounds, or else they may be heard only at the end of forced inspiration. Occasionally they closely resemble a shower of dry crackles.

Joint Sounds. These sounds, to me at least, are more interesting and important and more frequently lead to errors in diagnosis than any of the others. My attention was first called to them by an article by William Ewart[1] of London, to which the reader is referred. In this paper Ewart discusses in detail the original work of Perez and the sign bearing his name besides giving complete bibliography on this subject. Perez was apparently the first to note that certain sounds are produced in joint movements, which in the case of the shoulder and sternal joints may closely resemble râles and may thus lead to errors in diagnosis. "Perez's sign consists essentially in the production of sounds over the upper thoracic surface on actively or passively moving the arms at the shoulder joint, and particularly by raising or lowering them."[2] In a certain small proportion of cases, particularly among those who raise their shoulders up and down in breathing, enough of such joint sounds are produced in the movements of the acromio-clavicular, sterno-clavicular joints and elswhere to cause confusion.

Tendon or Bursal Sounds. These are best described by an article by F. T. Lord.[3] His is the only detailed description of such sounds and how they are produced that I have found. As I shall later point out, I have not found them to be the cause of any confusion.

Atelectatic Râles or Crackles. These sounds constitute a well-known and common phenomenon, but should only rarely lead to errors in

diagnosis. I have included so-called marginal sounds in this group. Although there seems to be considerable difference of opinion as to this I cannot consider marginal sounds as due to anything but the expansion of an atelectatic area in the lung. Bushnell[4] discusses this point at great length, and although he does not commit himself definitely, he seems to feel that such sounds are due to a physiological but not a pathological atelectasis. For the more detailed discussion of these points, and for many others bearing on the subject of extra-pulmonary sounds, the reader is referred to Bushnell's most excellent and comprehensive article.

Of my series of 250 patients, there were 133 males and 117 females. There were 16 children, 15 years old or under, 211 whose ages vary from 16 to 45 years and 23 over 45 years of age. In 169 cases the lungs were normal, 67 had pulmonary tuberculosis more or less marked, 3 a tuberculous pleurisy, 4 acute and 6 chronic bronchitis, 1 chronic influenza. As to the type of patient I have more or less arbitrarily divided these cases into groups, as follows:

1. Fat .....48 cases
2. Fat and muscular .....28 cases
3. Thin .....69 cases
4. Thin and muscular .....33 cases
5. Muscular .....61 cases
6. Emaciated .....11 cases

MUSCLE SOUNDS.

In discussing this subject and others I shall use the terms "absent," "slight," or "marked" in a relative and not an absolute sense. In every individual muscle sounds of greater or less degree can be heard on careful listening; when they are classed as "absent" it is meant that they are negligible as a factor in causing confusion or errors in diagnosis; the same applies to the term "slight" or "marked," not only as regards muscle sounds, but as to joint and bursal sounds and atelectatic râles. In this series of 250 cases muscle sounds, as a factor in causing mistakes, were "slight" in 25 cases, "absent" in 168 cases,—a total of 193,—and "marked" in 57 cases. Of the 193 patients in whom such sounds were absent or slight, 107 were males and 86 females. Of the 57 patients in whom I designated muscle sounds as "marked," 49 were males and 8 females All of these 57 patients were in the "muscular" group, "fat" or "thin," as the case might be. In 23 of the 57 cases, or in 9.2% of the whole number, the muscle sounds either closely resembled râles or else markedly interfered with breath sounds or the detection of other abnormal conditions. Among the 16 children, 15 years old or under, there were two instances where muscle sounds were a potential source of error by obscuring other sounds.

JOINT SOUNDS.

Joint sounds, loud enough to be distinctly audible on auscultation of the apices, front or back, were present in 126 cases. They are easily elicited by rotating the arms or by moving them up and down with the stethoscope held over the apex, front or back, or over the upper part of the sternum. Of the 126 patients in which such sounds were present, 75 were males and 51 females; joint sounds were slight in 83 and absent in 41 instances. Of this last group in which no joint sounds were heard, 17 were males and 24 females. On quiet normal breathing joint sounds were heard in only 9 cases, while there were 55 patients, or 22% of the whole number, in whom joint sounds were present on more forcible breathing and in whom they either closely resembled râles or in other ways led to confusion. In most instances, I have described these sounds as "too loud and coarse," "too snappy," "too harsh," "too metallic and near the ear" to be mistaken for râles. There were no joint sounds heard in examining the 16 children in the series.

TENDON OR BURSAL SOUNDS.

On listening in the scapular region as a part of a regular routine in each of these 250 cases I heard what I believed to be tendon or bursal sounds in 10 instances. These I have described as loud "snaps" or "clicks"; they did not resemble râles in the slightest nor could they be considered in any way a cause of error in diagnosis. In 7 cases they were found in muscular males; 1 case occurred in a very emaciated man, and two in fat women.

ATELECTATIC RÂLES.

I do not consider that this is the place to enter into a detailed discussion of the relation of "marginal sounds" to atelectatic rales. For this, as above mentioned, the reader is referred to Bushnell's[4] article. I think it safe to assume that both, doubtless for different reasons, are due to the sudden opening of pulmonary aveoli which were previously closed. Cabot, Bushnell, and others are on record as finding such sounds or râles in an amazingly large proportion of healthy individuals. For my own part, I was strongly of the opinion, previous to this investigation, that I could find râles at the bases posteriorly in the lungs of 80% to 90% of fat women not suffering from any pulmonary disease. It may be purely a coincidence that in this series of 250 individuals, 48 of whom I have classed as "fat" I could hear such atelectatic râles in only 5 instances. These 5 consisted of 3 women and 2 men, all in the "fat" group. As to the râles or marginal sounds heard in the lungs of healthy muscular persons, especially men, as described by Bushnell, I could find no evidence.

IMPORTANCE OF THESE SOUNDS TO THE GENERAL PRACTITIONER.

It seems to me safe to draw the following conclusions as a result of this investigation concerning these various sounds and their importance to the general practitioner in making lung examinations:—

First as to *Muscle Sounds.* In this particular series they appeared to me to be a potential cause of error in 9.2% of the cases. It was particularly in muscular, closely-knit young adults that they were most marked. The temperament of the patient, whether nervous or otherwise, seemed to play a part, those patients manifestly nervous on being examined presenting louder sounds than those of the phlegmatic type. This factor, however, did not seem to play so large a part as that of the patient's actual musculature. In the great majority of instances the muscle sounds took the form of a low roar, obscuring all other sounds; only rarely did they resemble râles.

Next, considering *Joint Sounds,* I found here a larger source of confusion than muscle sounds. In 55 instances, or 22% of the whole, sounds were present on forced breathing, which closely resembled râles. Sex seemed to make no difference in the occurrence of this phenomenon, nor did the patient's age except that no case occurred in the children in the series. Likewise, the physique of the patient did not seem to be a factor. As would naturally be the case, it was in patients who used the accessory muscles of respiration in breathing that the joint sounds were most marked. It is evident, to me at least, that joint sounds deserve careful consideration as a possible cause of error in diagnosing pulmonary disorders.

Tendon or Bursal Sounds do not resemble nor obscure râles or breath sounds, nor do they occur often enough to be seriously considered.

Atelectatic Rales or *Marginal Sounds* ought never to be a source of error. The latter, as described by Bushnell, I have not been able to find, and the former are usually self-evident and rarely simulate râles due to a tuberculous process.

HOW TO AVOID ERRORS DUE TO MUSCLE OR JOINT SOUNDS.

Muscle Sounds often make diagnosis very difficult. Such sounds, in very muscular and nervously wrought-up persons may render it absolutely impossible to come to any accurate conclusions as to râles or breath sounds. In such cases every effort must be made to make the patient relax physically and mentally. Too cold an examining room or too light a wrap over the patient may be important causes of such sounds. In every instance intense concentration on the part of the physician is necessary.

The avoidance of errors due to *Joint Sounds* is an easier matter. I have made it a part of my routine examinations as a result of this study, whenever joint sounds or sounds simulating râles which I think may be joint sounds, are present, to put the patient through the following procedure: The patient closes his nostrils tightly by holding the nose, the mouth is shut, so that no air can get in or out of the chest, thereby doing away with all movement of air in the lungs; and the patient is then told to "go through the motions of taking a full breath without taking one." Usually the patient is quite at a loss as to what to do; a few minutes instructions on my part, however, with an explanation of what I am aiming to accomplish, has in every case made everything perfectly clear and easy. As in doing this there is no movement of air inside the lungs, there can be no râles. In many cases, when for some reason I have been suspicious of a shower of crackles unexpectedly heard at one apex after a deep breath, I have made the patient go through this procedure and have heard the identical shower of crackles as before. This is conclusive proof that such sounds are surely not râles and that in all probability they are "motor joint crackles." It is needless to mention the importance of such a decision as this to the physician in making his diagnosis and to the patient as to prognosis and treatment. I have not found that this simple procedure has been previously described. In my own work I have found it of value. I believe that it will be so to others.

Finally, I would briefly summarize this study as follows:—

1 *Muscle Sounds* were a potential source of error in 9.2% of the 250 cases. Such sounds occur, particularly in muscular persons of nervous temperament. These sounds can be lessened by quieting and calming the patient and by seeing the the examining room is sufficiently warm. Errors due to these sounds can be avoided only by great care and concentration on the part of the physician.

2. *Joint Sounds,* resembling râles and a potential source of error, occurred in 22% of this series. Errors due to this cause may be avoided by the procedure described in detail above, of making the patient "go through the motions of breathing without taking a breath." This should be done in every doubtful case.

3. *Tendon or Bursal Sounds, Atelectatic Râles or Marginal Sounds,* ought not to cause confusion or be sources of any mistakes in diagnosis.

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[1] William Ewart: British Medical Journal, April 6, 1912.
[2] Quoted from Ewart's article, q. v.
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A PLEA FOR EARLY OPERATION FOR GALL STONES BASED ON AUTOPSY RECORDS.

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Not long ago cholelithiasis was considered a disease for medical treatment, and the patient's life was regulated accordingly. Gradually it became evident that surgery could offer a better outlook to the average patient suffering from gall stones than medicine. Recently I reviewed the autopsies, where gall stones were found, made at the Boston City Hospital. When my work was done and the figures put together, I was surprised to see what an unrefutable argument they offered for early operation. The number of cases is not large but the evidence is conclusive. The cases include all in whom a gall stone was found at autopsy.

The presence of gall stones was suspected in some and unrecognized in others. They include cases from the various departments of the hospital. A very few follow an operation, but only such of those are included here as had stone at autopsy. It seemed fair to include these, an exceeding small number, for the gall stones necessarily were the cause of operation and death. If the operation killed and a stone was left behind how much more serious would a complete operation have been?

There were 108 cases. Among these gall stones were found in the gall bladder alone in 76. Gall stones caused the death of 9 of these, by setting up fatal trouble in the liver or gall bladder. The causes of death were, hepatitis cancer of the gall bladder, pancreatitis, abscess of liver. The remaining cases, 67, died of such conditions as pneumonia, nephritis, endocarditis, arteriosclerosis, cancer of stomach, fracture, tuberculosis, cancer of liver, etc.

There were 32 cases where the stones had passed beyond the gall bladder and were found in the ducts. In 14 of these the cause of death was due to the gall stones. The cause given being abscesses of liver, peritonitis, cholangitis, abscess of bladder, cholecystitis. The remaining 18 died of cardiac diseases, pneumonia, peritonitis, erysipelas, cancer of liver, etc.

From these figures it follows that if a patient with gall stones chooses medical treatment his chance of dying as a result of the gall stones is 14 out of 100 as long as they remain in the gall bladder. When the stones pass into the ducts his chances increase to 43 in 100. Should he elect operation while the stones are in the bladder what are his chances? His chances for death are then from 3 to 5 in 100.

The mortality of 3% for cholecystostomy and 4½% for cholecystectomy were given to me by Dr. E. A. Codman, who compiled a series of cases from various hospitals. The combined mortality of cholecystostomy and cholecystectomy in uncomplicated cases at the City Hospital is 5% plus.

The above figures are astonishingly large, but I offer them as they are. The relative mortality between gall stones in the bladder and those that have passed into the ducts is of special interest even though the figures themselves may for some unexplained reason be large.

The deduction is of course obvious, that advice for operation should follow the establishment of a diagnosis before the stones have time to set up any secondary fatal changes.

Incidentally it is of interest to note that in 4 out of the 108 cases a stone was found which had ulcerated through into the intestine.

Reports of Societies.

AMERICAN ASSOCIATION OF PHYSICIANS.

TWENTY-NINTH ANNUAL MEETING, HELD AT ATLANTIC CITY, NEW JERSEY, MAY 12, AND 13, 1914.

The President, DR. SIMON FLEXNER, in the Chair.

PRESIDENT'S ADDRESS.

PRESIDENT FLEXNER said the extension of the boundaries of knowledge has been such that it has compelled medical colleges to become departments of universities. This rapid extension of knowledge coincided with the active pursuit of physiology, pathology, bacteriology and pharmacology, either alone or in association with clinical studies for which special laboratories and institutes came to be established. Independent institutions for medical research had exercised a distinct influence on medical practice, but the foundation of these institutions was impossible until medical schools furnished an adequate supply of students whose training approximated that of the older European countries. All these conditions had acted more powerfully on clinical teaching. The professor of medicine in the university medical school had ceased long ago to be a general practitioner. The function of the clinical teacher had been newly defined within one or two decades. The American Association of Physicians had sympathized with every movement affecting the progress of medical education, and it favored this later step with the single hope, if it be in the real interest of medical progress, it might be given a chance to succeed.

CHRONIC INTERSTITIAL GASTRITIS.

DR. JOSEPH SAILER, of Philadelphia, reported a case of chronic interstitial gastritis in a male, 45 years of age, who had been subjected to various forms of medical treatment, but none of them was of any avail. Dr. Deaver performed an exploratory operation and found the condition of the stomach

entirely in accord with the clinical picture. The stomach walls were very thick. The stomach was adherent posteriorly and around the pylorus. The adhesions were released, and the stomach wall found greatly thickened. Dr. Deaver believed that gastroenterostomy would have been difficult, in addition to giving no definite relief. There were no enlarged glands along the lesser curvature, but the adhesions were dense along the greater curvature, and a definite gland mass could not be felt. There was no evidence of metastasis. The abdomen was closed and the patient made a satisfactory recovery from the exploratory operation.

DISCUSSION.

DR. DAVID RIESMAN, of Philadelphia, stated that with the x-ray we are not able to distinguish between the malignant and non-malignant types of what is called leather-bottle stomach. This distinction can be made only by clinical observation. Recently he saw a typical case of leather-bottle stomach which was very malignant, because the patient had cachexia and ascites. Both of these conditions in this case were sufficient to determine that the condition was cancerous. The man died in a few weeks. There were no evidences of metastases in the liver, and the liver was not enlarged at any time.

Another case that came to autopsy showed no metastasis from any of the viscera, but marked enlargement of the glands along the greater curvature of the stomach.

THE NATURE OF PERISTALSIS AND THE ACTION OF MAGNESIUM SULPHATE.

DR. S. J. MELTZER, of New York City, advanced two assumptions. One assumption made upon the basis of experimental facts was that peristalsis was a complicated condition in which the phenomenon of inhibition played an important part, and the second was, that magnesium sulphate acted by affecting this inhibitory force.

A CLINICAL STUDY OF ONE THOUSAND CASES OF CANCER OF THE STOMACH.

DR. JULIUS FRIEDENWALD, of Baltimore, presented a clinical study of 1000 cases of gastric cancer. The cases occurred in 10,416 patients, affected with various gastro-intestinal disturbances. The maximum liability to the disease occurred between the fortieth and sixtieth years. The greatest proportion occurred in males, 588 to 412 females. An hereditary history of cancer appeared in 9.4 per cent. of cases; a history of trauma in 1.9 per cent.; anemia was present in 82 per cent. Chronic endocarditis was present in 11.4 per cent.; arteriosclerosis in 69.6 per cent. A history of former indiscretions in diet was obtained in 32.1 per cent.; of alcoholism in 15.2 per cent.; of syphilis in 7.9 per cent.; hyperchlorhydria in 4.9 per cent.; hypochlorhydria in 2.8 per cent.; anacidity in 89.2 per cent. Lactic acid was present in 81.9 per cent. Dysphagia existed in 6.9 per cent. of all cases. Loss of weight existed in 88.5 per cent. Anorexia was present in 89.3 per cent. Vomiting existed in 89.3 per cent. Occult blood was present in the stools in 92.5 per cent. Masses in the form of tumors were detected in 71.9 per cent. Dilatation of the stomach existed in 46.7 per cent. Perforation occurred in 2.3 per cent. Metastasis existed in 67.2 per cent. Operations were performed in 26.6 per cent.

WHEN AND HOW TO USE TUBERCULIN PREPARATIONS IN PRIVATE PRACTICE.

DR. S. SOLIS-COHEN, of Philadelphia, in his paper with this title dealt with pulmonary tuberculosis only. The disastrous results of the early use of tuberculin were owing to (a) crude dosage; (b) unsuitability of cases.

1. *Dosage.*—Correct principles were established by Trudeau. The opsonic index of Wright marked a further advance. Latham's method of administration by mouth, with parallel temperature curve and opsonic index guidance, demonstrated the full trustworthiness of the temperature curve alone, and simplified the procedure.

The following was the author's modification of Latham's method: tuberculin residue (T. R.) triturated with milk, sugar was given with skim milk, whey or beef juice. The initial dose, he said, was one one-millionth of a milligram. Both subjective and objective symptoms of reaction were watched for. The dose was repeated once or twice weekly, according to result. It was gradually increased by increments of one one-millionth of a milligram to the reaction point, and then dropped one point lower, and so continued for some weeks. Later, a further increase was attempted, and if reaction was not shown, was proceeded with in a similar gradual way. The arbitrary increment of one one-millionth of a milligram was maintained during this remittent progression until one ten-thousandth of a milligram had been reached. After that, the increment might be raised to one one-hundred-thousandth of a milligram. Thus by successive stages a maximum dose was attained at a point determined for each individual by all the factors in the case, including the rapidity of the increase, character and intensity of reaction and maintenance of tolerance, as well as the local and general signs of improvement.

The treatment was continued with intermissions, for many months, and may be resumed, if necessary, from time to time over a period of years.

2. Selection of cases. In the majority of advanced cases, according to present knowledge, tuberculin was likely to be harmful. Experienced observers might employ it cautiously under conditions that seemed to call for its use, but others should avoid it, especially in cases showing a tendency to continuous fever, or in which there was, or had been recently, active softening. In the great bulk of early cases it was needless. Under proper treatment, medicinal as well as hygienic, recovery would take place without it.

Its field of action was in the treatment of cases which (1) had not passed beyond the stage of infiltration and which (2) had shown a certain degree of improvement under proper food, fresh air, judicious rest and exercise, and other approved measures, including the right drugs, but in which (3) improvement became sluggish or ceased, or retrogression took place. The slight additional stimulus afforded by an appropriate tuberculin preparation administered at well chosen times, and in correct dosage, would often reawaken the defensive and restorative processes of the organism and be followed by complete recovery.

Illustrative cases were cited.

DISCUSSION.

DR. ABRAHAM JACOBI, of New York City, had used tuberculin in doses of from one-hundred-thousandth of a milligram up to one-five-thousandth of a milligram, and had never seen any unpleasant symptoms. He had given it in combination with other agents. His routine treatment in chronic cases of pulmonary tuberculosis consisted in the internal administration of guaiacol and arsenic with tuberculin, and he had observed no disagreeable symptoms which he could attribute to the tuberculin.

SPLENECTOMY FOR PERNICIOUS ANEMIA.

DRS. WARREN COLEMAN AND JOHN A. HARTWELL, of New York, reported a typical case of pernicious anemia that grew steadily worse in spite of four months' treatment with arsenic, iron, hydrochloric acid, and four transfusions. Splenectomy was performed as a last resort. Ten weeks later, January 13, neosalvarsan was administered. The use of neosalvarsan made it impossible to draw any conclusion as to the effects of the splenectomy except in the interval before its administration. In this interval there was no evidence of more than temporary improvement. At the present time, April 24, six months after the operation, the patient, while looking better and feeling better, is just beginning to sit up.

STUDIES IN PERNICIOUS ANEMIA.

DR. HERBERT C. MOFFITT, of San Francisco, had been able to collect 31 cases of splenectomy for pernicious anemia from the literature, and he reported eight which were done in San Francisco, one in his own service.

The results from splenectomy had been variable. In eight cases death resulted either immediately or soon after operation. A number of other cases had not been improved. In still others reported in the literature surprising improvement had taken place. In his own case, paresthesia, which was obstinate before operation, disappeared at once afterward. There were other striking changes in the blood regeneration which followed soon after operation in many cases.

He had had opportunity to study the spleens after operation in eight cases, and the picture was practically the same in all. Contrary to clinical observations, the weight of the spleen was considerably greater than normal, varying from 450 to 500, and from that point down to 350 to approach the normal of 280. Most observers recorded the size of the spleen in pernicious anemia as not increased, while operative results showed the spleen was considerably larger than normal.

The recent work on splenectomy should not distract attention from the ultimate causes of the disease.

The author mentioned some time ago the similarity between pernicious anemia in man and pernicious anemia in animals, such as horses. Since that time he had had opportunity to observe some cases in animals and to make sections from the liver and spleen in certain cases. The microscopic appearance of the spleen and liver in these cases was that noticed in the organs removed at the operation for pernicious anemia. From a spleen removed in January an emulsion was made and injected hypodermically into a horse, with no change in the anemia. The operation of splenectomy in horses was difficult. Many arteries went into the spleen and possibly the operation could not be successfully done. He had in mind tying the arteries of horses whose spleens were affected with pernicious anemia, and it would be interesting to observe whether, as in human cases, cutting off the circulation in horses would have any effect in stopping hyper-hemolysis, which was characteristic of the disease in animals as it oftentimes was in human beings.

STUDIES IN EXPERIMENTAL ARTERIOSCLEROSIS.

DR. I. ADLER, of New York City, presented a preliminary report summarizing briefly the results of some experiments on dogs that he had carried on for some time. Dogs were injected, partly intravenously, partly subcutaneously, with various substances, such as adrenalin, nicotin, lead, diphtheria toxin, pure cultures of different species of bacteria, all with absolutely negative results.

In a further set of experiments dogs were fed with a number of substances, under varying conditions, and it was believed that some positive results were obtained, so that the aorta in some cases showed lesions which both microscopically as well as histologically were closely analogous, if not absolutely identical with human arteriosclerosis.

MITRAL STENOSIS.

DR. R. C. CABOT, of Boston, related his observations on 200 cases of mitral stenosis before and after death. His studies had impressed him with the fact that mitral stenosis fell into four clinical groups: 1. The cardiac group, in which the symptoms were apparently mechanical, such as stasis, etc. 2. The septic group, in which the symptoms were those of an acute infectious disease. 3. The embolic group, in which out of a clear sky embolism of the brain or periphery appeared. 4. That group in which there were no symptoms whatever, and the patient died of some other disease or after an operation and the pathologist found mitral stenosis after death.

CASE OF RECURRENT FEVER IN AORTIC ANEURYSM.

DR. ALEXANDER MCPHEDRAN, of Toronto, reported the case of a woman, aged 36, of irregular life and habits, who entered the hospital October 18, 1913, complaining of pain in the right chest for about six weeks. She had recurrent fever about every seven or eight days. The aortic arch was dilated and showed a pulsating aneurysm in the first left intercostal space. The temperature became normal and remained so in January, and her general condition improved very much. She was treated with iodids, mercury and salvarsan.

PATENT DUCTUS ARTERIOSUS WITH INFECTIVE PULMONARY ENDARTERITIS.

DR. W. F. HAMILTON AND DR. MAUDE E. ABBOTT, of Montreal, reported this case and drew the following conclusions:

1. This case illustrated in a remarkable manner what hitherto has not been fully emphasized, namely, that a vegetative process is commonly associated with congenital cardiac defects.

2. These vegetations in the present case, and probably in the majority of such processes occurring in conjunction with cardiac defects, were not a simple thrombosis of mechanical origin, with secondary infection supervening, but from their onset were inflammatory in character, the result of an invasion of the vessel wall by infective organisms at the seat of maximum strain.

3. The inflammatory process present in this case manifestly did not arise as a result of an embolic infection through the vasa vasorum, but began by the invasions of the intima at a single point, the pulmonary end of the ductus, which was probably the seat of maximum strain from the two combined causes, the eddying blood stream within its lumen, and the rigid calcareous gland which lay in close juxtaposition without.

4. The present, so far as they knew, was the only recorded case in which the ductus and pulmonary artery in the neighborhood were the sole seat of the disease and in which the pulmonary orifice of the ductus had been demonstrated to be the initial seat of the lesion.

DISCUSSION.

DR. W. S. THAYER, of Baltimore, had had a case very closely similar to the one related in which there was an increased area of dullness in the second and third interspaces, a thrill, and a prolonged murmur beginning in systole and lasting over diastole with an accentuated second pulmonic sound. The diagnosis was open ductus arteriosus. As time went on the patient developed paralysis of the left recurrent laryngeal nerve. The patient was sent to a well known radiologist who took an x-ray and in sending the plates back wrote a letter in which he made an exact diagnosis of the condition from his standpoint, stating, "this is an instance of mitral stenosis with dilatation of the left auricle, and pressure upon the recurrent laryngeal nerve," but it did not occur to the radiologist that there were other methods of making the diagnosis.

DR. ABRAHAM JACOBI, of New York City, said that he knew a baby when he was only a few months old. He was now a boy twelve years of age. His ductus had been closed nearly three years. He saw him once or twice every year and always found the same symptoms, the murmur getting less and less marked until finally it disappeared not only from the carotids but also from the pulmonary artery from below up.

CERTAIN TESTS OF RENAL FUNCTION.

DR. W. S. THAYER, of Baltimore, related 18 instances of severe advanced chronic nephritis, and concluded that where he had been able to correlate the anatomical and clinical observations, they served to fortify and to verify his previous opinion that the phthalein test was a reliable one of considerable diagnostic and prognostic value, especially in the study of chronic nephritis.

DISCUSSION.

DR. CHARLES F. WITHINGTON, of Boston, reported several cases of nephritis. One of the patients, a man, brought into the hospital unconscious, showed unmistakable symptoms or evidence of acute nephritis. There was a history of convulsions and of his being comatose. Twenty-four hours after he was brought in the phthalein output was 70 per cent. His condition proceeded to clear up and he went out about two weeks after he was brought in, showing a surprising phthalein output, although manifesting signs of nephritis.

DR. JOSEPH L. MILLER, of Chicago, stated that a man came to the hospital, not very ill, in whose case a definite diagnosis of chronic interstitial nephritis was made. He was passing 2000 c.c. of urine a day. He could not get a trace of phthalein through in two hours. In forty-eight hours and up to the time he went into coma, he passed a large amount of urine, and at the end of that time went into coma and died. Autopsy showed a high degree of interstitial nephritis.

DR. THAYER (closing): said there were many instances of hydropic nephritis with very few grave subjective symptoms excepting the hydrops. One found sometimes large quantities of albumin and casts in the urine, yet there was perfectly normal renal function if we estimated it by these tests, excepting the question of salt retention.

SYPHILITIC NEPHRITIS

DR. ALFRED STENGEL AND DR. J. HAROLD AUSTIN, of Philadelphia, in a joint paper stated they had examined the urine with the polarizing microscope fifty-eight times from forty-six cases. Of these 46, 23 showed nephritis with an abundance of albumin and casts in the urine. Of these 23 cases, six had positive Wassermanns, 3 had strong presumptive evidence of syphilis, but no positive Wassermanns; 14 had not the slightest evidence of syphilis. The six cases with positive Wassermanns, all showed lipoids in the urine. The rest of the 46 cases studied were made up in part of nephritis cases of the interstitial or arteriosclerotic types, with only traces of albumin in the urine, and a few hyaline and granular casts, some with syphilis and some without, any number of cases of syphilis but with no nephritis, and any number of control cases with neither syphilis nor nephritis. None of these cases showed lipoids in the urine. One of the six syphilitic cases with nephritis showing lipoids in the urine had not received any mercury.

They found of further interest the fact that of their last 84 cases of nephritis, for 46 cases there could be recognized from the histories such accepted etiological influences as infections, lead, alcohol, excessive work, exposure, senility, etc., but that for 18 cases no such factors could be determined. Of these 18 cases, there existed in eight either an unquestionable history of syphilis or a positive Wassermann or both, and in six more of these cases no Wassermann had been secured.

In order to determine whether the common experimental degenerative nephritides of animals would be associated with lipoids in the urine, three rabbits were given uranium nephritis and one dog a chromate nephritis. The four experiments were negative; no lipoids were found in the urine. Further experiments with mercurial nephritis, phosphorus and chloroform lesions and syphilitic inoculations were in progress.

X-RAY EVIDENCE IN EARLY AND LATENT CANCER OF THE STOMACH.

DRS. FRANKLIN W. WHITE AND RALPH D. LEONARD, of Boston, said their material consisted of 114 hospital and private cases suspected of having can-

cer of the stomach, thoroughly examined within a year by clinical and x-ray methods. In forty cases cancer was proved; in sixty-six it was ruled out; in eight the diagnosis remained doubtful. The group of cases was studied to determine how far the x-ray evidence had helped to detect early or latent cancer. Recent cases were chosen because of recent improvements in x-ray technic. The x-ray evidence in early cancer was very scanty; in latent cancer it was abundant and important. In the group of operated cases of cancer, a comparison of correct diagnosis before and after x-ray examination showed the latter distinctly higher.

THE PATHOLOGIC EVIDENCE OF THE RELATIONSHIP BETWEEN GASTRIC ULCER AND GASTRIC CARCINOMA.

DR. LOUIS B. WILSON, of Rochester, Minnesota, stated that any existing disagreement as to the relationship between gastric ulcer and gastric carcinoma depended on (1) failure to understand the pathologic data. (2) Inappreciation of the bearing on the clinical data; or (3) failure to appreciate the correlation existing between the two.

Small gastric ulcers were usually simple and large cauliflower cancers usually showed little evidence of previous ulceration, but between these two lay a large group of ulcerated lesions of the stomach, some of which were ulcers only and others of which resembled ulcers in all respects, except that in addition they also showed cancer.

So far as the pathologist was concerned, he could not positively distinguish, in many such specimens, between simple ulcer and ulcer plus cancer, except with a microscope. When, in such a specimen showing cancerous areas, no cancer cells were found in the base of the ulcer one was warranted in assuming that the ulcerative lesion preceded the cancer.

A review now in progress of all the tissue removed from the stomach and duodenum in the Mayo clinic since 1905 showed that approximately 60 per cent. of the specimens which showed cancer gave more or less pathologic evidence of the precedence of ulcer in the same area.

Of the specimens of gastric tumors examined pathologically and diagnosed either cancer or cancer on ulcer, there was agreement between the clinical diagnosis and the pathologic diagnosis in more than 80 per cent. of the cases.

THE INSPIRATORY EXAGGERATION OF THE DICROTIC WAVE IN PERICARDITIS.

DR. ALBERT E. TAUSSIG, of St. Louis, Mo., stated that ordinarily, the dicrotic wave in the radial sphygmogram did not vary in size with the phase of respiration. In pericarditis, however, it became more or less exaggerated, sometimes greatly so, during inspiration. In all of the five cases studied from this point of view, the phenomenon was observed. Anatomical considerations rendered its occurrence readily explicable. It might have diagnostic significance.

INTRAUTERINE AMPUTATION.

DR. GEO. DOCK, of St. Louis, Mo., reported a case bearing on the pathology of so-called congenital amputation with x-rays and photographs.

THE ETIOLOGY OF SOME OF THE INFECTIVE TROPICAL GRANULOMATA.

DR. RICHARD P. STRONG, of Boston, stated that among the infective granulomata which occurred more commonly in certain tropical countries, which were perhaps of unusual interest from an etiologic point of view, were verruga peruviana ulcerating granuloma of the pudenda, and framboesia. The relation of these forms to one another was considered.

Verruga peruviana and oroya fever had been considered to be merely different stages of the same disease, oroya fever having been regarded as the initial stage of the granulomatous verruga stage. The two diseases, however, were quite distinct and had a very different etiology. Verruga peruviana was due to a virus which might be transmitted to some of the lower animals, while oroya fever owed its origin to a parasite of the red blood corpuscles. The two diseases also had a very different pathology.

The etiology of ulcerating granuloma did not seem to be definitely determined.

In view of the recent work in the transmission of the virus of verruga to some of the lower animals, it was recommended that more extensive experiments be carried out with the idea of transmitting ulcerating granuloma to monkeys.

A DIFFERENTIAL STUDY OF COCCIDIOIDAL DISEASE AND BLASTOMYCOSIS.

DRS. P. K. BROWN AND W. T. CUMMINS, of San Francisco, stated that cats and white rats were found to be markedly insusceptible to infection. Rabbits and guinea-pigs appeared to be somewhat more susceptible to coccidioidal than blastomycetic infection. Coccidioidal involvement was noted in two rabbits, while the cerebrospinal tissues remained unaffected in all animals in advanced disease. Passage through animals exalted the virulence of the organisms. Highly acid and alkaline agar offered but little inhibition to the growth of the organisms. There was profuse aerobic growth in, but no fermentation of, eighteen sugars. Fifty dyes were studied for their inhibiting effect upon the growth of the organisms. Crystal violet was found to be the most inhibitive and in concentration forty times greater than the minimum inhibitory dose, was not toxic for guinea-pigs and white rats.

They discussed the differentiation of the two diseases clinically, pathologically, and bacteriologically and by animal experimentation.

THE INFLUENCE OF BENZOL INHALATIONS ON EXPERIMENTAL PULMONARY TUBERCULOSIS IN RABBITS.

DR. WILLIAM CHARLES WHITE, of Pittsburgh, stated that benzol $C_6 H_6$ was the best solvent for the fat portion of the tubercle bacillus. It extracted a greater percentage of fat than any other single solvent would take from the bacilliary substance. Because benzol could be easily vaporized and utilized as an anesthetic, it was thought possible in this way to dissolve living tubercle bacilli after their entrance into the pulmonary capillary system by way of the ear vein and before the formation of the tubercle.

It was hoped in this way to obtain a solution of all the living portions of the tubercle bacillus within the body and the possible development of a retarda-

tion of the process produced by a fatal dose of tubercle bacilli and the establishment of an immunity to a further dose of the organism. Contrary to the desire expressed in the theory, he found that in every instance whether the infecting tubercle bacilli were of low virulence or of high virulence, the resulting infection in rabbits was very much more severe in those treated by inhalation of benzol than in those infected with the same weight of infecting organism.

The symptoms produced in rabbits by the inhalation of benzol were similar to those described by Torald Sollmann for the inhalation of gasoline vapors. Animals might be given benzol inhalations, 5 c.c. every second day for periods up to three and even four weeks without resulting in death. The resulting leucopenia varied very much, the lowest white cell count was 3800 per cm. The red cell anemia was very variable, the lowest in our series being 3,600,000 per cm. The majority retained a normal red cell count.

The blood smears and counts exhibited changes similar to those described for the injections of benzol by Selling and others.

In all thirty-three animals were used; twelve controls and twenty-one treated. The pathologic findings in many of these animals were very striking. In thirty per cent. of the treated animals, after receiving 5 c.c. inhalations of benzol every second day for three weeks, and then being allowed to live two to three weeks longer, extreme enlargement of the spleen was found. In one instance the spleen measured 13 x 3.5 x 3 cms., and the circumference of its largest part was 9.5 cms. There was a large hemorrhage in the substance of this spleen.

There was in all twenty-one treated animals but a single case of purpura with hemorrhages into the mucous membrane of the stomach and bowel.

There were marked fatty changes both in the liver and the kidneys of the treated animals.

SOME RELATIONS OF THE BRAIN AND OF THE OLFACTORY APPARATUS TO THE PROCESSES OF IMMUNITY.

DR. HENRY SEWELL, Denver, Colorado, drew the following conclusions from his experimental work on this subject:

1. Guinea-pigs sensitized to horse serum may be desensitized by residence in a horse stable.
2. It was probable that this reaction might be rapidly achieved through the olfactory sense or more slowly by absorption through the respiratory membrane.
3. The period of anti-anaphylaxis was of less than two days' duration.
4. The converse of this, sensitization of normal guinea-pigs in stable air he had not been able to achieve.
5. Removal of part of the brain of a sensitized guinea-pig produced much more severe shock than the same amount of injury in a normal animal.
6. This shock was apt to be followed by a period of anti-anaphylaxis of short duration.
7. Section of the olfactory nerves within the cranial cavity preceding the brain operation by a day or more abolished the tendency to shock.
8. Such nerve section in the normal animal also seemed to reduce the shock arising from definite brain injury.

Depression of the olfactory sense through cocain and the resemblance of symptoms from poisoning with this drug to those of anaphylaxis were discussed.

The body as a whole might be sensitized through the peripheral application of horse serum after a definite latent period which did not seem to be affected by previous general sensitization.

THE NORMAL AMOUNT OF DIASTATIC FERMENT IN THE URINE AND FECES AND ITS VARIATION IN DISEASES OF THE PANCREAS.

DR. THOMAS R. BROWN, of Baltimore, stated that from his study of the diastase-content of urine and feces in normal and in certain pathologic conditions, the following conclusions could be drawn:

1. In healthy individuals the diastase-content of the urine falls within quite definite limits. Markedly small amounts of this ferment in the urine, in the absence of renal changes, were suggestive, although not diagnostic, of pancreatic disease, but the real value of these normal limits would probably be in furnishing criteria in testing the renal function by the diastase output of the urine.
2. The stool, if rigorously exact methods are carried out as to food (milk), purgative employed, preservation of specimen, estimation of ferment, etc., also furnished a content within definite limits. He could not insist too strongly upon the procedure being exactly the same in all cases. The effect of waiting too long after the stool has been obtained before making the examination, the influence of variations in temperature in the place where it was kept, and of different laxatives and different foods, was so great as to render the results obtained by methods in which insistence upon such a rigorous technic had not been made of much less value.
3. Extensive carcinoma of the pancreas showed no diastase in the tubes of least dilution in his method, and this absence of ferment should prove of help in the diagnosis of this condition.
4. In chronic pancreatitis diastase was present in the stool, but in markedly diminished amounts.
5. In achylia gastrica the diastase-content of the stool was practically normal in all the cases examined. This, in the first place, suggested that in the absence of hydrochloric acid some other method of pancreas invasion was called into play; and, in the second place, that the diarrhea met with in certain of these cases of achylia gastrica—the so-called gastrogenous diarrheas—was not of pancreatic origin.
6. If all the controllable factors were standardized, the results obtained by the study of the diastase-content of the stool should be of real value in the diagnosis of pancreatic disease and in the study of functional disturbances of this gland.

ACONITE AS A VASO-DILATOR.

DR. WILLIAM HANNA THOMSON, of New York City, stated that after many years of experience in the use of aconite in chronic interstitial nephritis, he regarded it as the most efficacious vasodilator which we possessed, when given systematically in full doses. Aconite thus administered reduced, at once, the blood pressure, produced a full and compressible pulse, and greatly increased the percentage of the elimination of urea in interstitial nephritis. The most important action of aconite, when administered in interstitial nephritis, was to increase the elimination of urea. The beneficial effects of aconite were particularly pronounced in mental derange-

ments of the nature of melancholia with high blood pressure.

THE SUBCUTANEOUS ADMINISTRATION OF OXYGEN AS A THERAPEUTIC MEASURE.

DR. JOHN MCCRAE, of Philadelphia, stated that he had used oxygen in this way for the last two or three months and believed it was the rational method of administering it, and properly placed, it was useful. He had had occasion to employ it in a surgical case which had a severe operation. The patient looked as though he might die in a short time. His respiration was 60; he had extreme edema of the lungs, extreme pallor, profuse perspiration, and signs of impending death. With repeated injections of oxygen the man recovered. He had used oxygen in thirty cases and believed it should be a part of the armamentarium of the surgical operating room.

INFECTIOUS AND TOXIC FORMS OF TRANSVERSE MYELITIS.

DR. B. SACHS, of New York City, reported five cases of complete transverse myelitis. Of this number, four recovered completely, and one proved fatal.

The first of these cases he reported two years ago with the idea that the transverse myelitis was due to the poliomyelitis virus, that statement being based on the fact that the case appeared during the epidemic of poliomyelitis in New York City, and in many respects it was similar to poliomyelitis. There was some peculiar form of infectious transverse myelitis which in four out of five cases led to recovery. The condition was more common than heretofore supposed and should receive further consideration.

EPIDEMIC OF STREPTOCOCCUS SORE THROAT.

DR. JOSEPH A. CAPPS AND DR. J. D. DAVIS, of Chicago, described in a joint communication an epidemic of streptococcus sore throat in Jacksonville, Illinois, which was traced to the milk of cows affected with streptococcic mastitis.

DISCUSSION.

DR. GEO. M. KOBER, of Washington, D. C., pointed out that he made his first collection of milk-borne epidemics in 1894, and at that time was impressed with the studies made in England by Kline, Crookshank, and others in regard to so-called epidemics of scarlet fever which they attributed at that time to an inflammatory condition of the teat or udder of the animal. In analyzing the situation he concluded and ventured to express the opinion in 1895 that these were not true cases of scarlet fever, but typical instances of either staphylococcic or streptococcic infections, because he had seen a great many instances where an eruption similar to that observed in cases of scarlet fever was due to streptococcus infection.

With our present knowledge of milk-borne diseases, nothing short of pasteurization of milk would confer immunity from these infections.

DR. R. C. CABOT, of Boston, asked what sort of an eruption it was.

DR. CAPPS replied that it was erythematous. Four of the cases were described and diagnosed by very good clinicians as erysipelas.

PATHOGENESIS OF POLIOMYELITIS IN THE LIGHT OF RECENT RESEARCH.

DR. SIMON FLEXNER, of New York City, stated that recent experimental studies on poliomyelitis confirmed the view that in man infection occurred through the upper respiratory tract, and that the virus passed to the central nervous organs by way of the cerebrospinal fluid and not by way of the blood.

Book Reviews.

Die Moderne Therapie der Gonorrhöe beim Manne. Ein Leitfaden für Studierende und Aerzte. Von PROF. DR. PAUL ASCH, in Strassburg i. Els. Mit 25 Abbildungen in Text. Bonn: A. Marcus and E. Webers Verlag. 1914.

This small pamphlet of eighty-one pages contains twelve short lectures which embody the author's fifteen years' experience in the treatment of this disease. There is no attempt at completeness, and the writer states in his preface that his sole object is to present in brief form, his own beliefs and opinions as acquired from his own experience. The German is terse and vigorous and no words are wasted, so there is much knowledge contained in a small space. Type and paper are excellent, and there are twenty-five sketches, chiefly of instruments in common use.

Modern Medicine, Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by SIR WILLIAM OSLER, Bart., M.D., F.R.S.; and THOMAS MCCRAE, M.D. Volume II, Diseases Caused by Protozoa and Animal Parasites, Diseases Due to Physical, Chemical and Organic Agents, Diseases of Metabolism and of the Respiratory System. Second edition, thoroughly revised. Illustrated. Philadelphia and New York: Lea and Febiger. 1914.

The second volume of this standard text-book requires little in the way of comment. The eminent authors have revised their special sections; there is a new section on pellagra. Dr. Osler and Dr. Churchman have written an authoritative article on syphilis.

A Manual of Clinical Diagnosis by Means of Laboratory Methods. By CHARLES E. SIMON, M.D. Eighth edition, enlarged and thoroughly revised. Philadelphia and New York: Lea and Febiger. 1914.

The eighth edition of this well-known manual has grown to eight hundred pages. Like its predecessors, it contains all the modern methods of laboratory diagnosis. There is an adequate discussion on complement fixation tests, renal function tests, and the Abderhalden's pregnancy test.

Forensic Medicine and Toxicology. By G. O. HAWTHORNE, M.D., fellow of the Royal Faculty of Physicians and Surgeons of Glasgow, lecturer on Forensic Medicine in the London School of Medicine for Women; physician to the North-West London and Royal Waterloo Hospitals. Third edition. New York: Longmans, Green and Company. London: Edward Arnold. 1914.

In this book the author has given a remarkably clear and definite statement of the distinction between the expert, drawing inferences from facts, and the ordinary witness testifying to facts. It can be readily seen that usages in English courts are somewhat different from our own. In the detection of blood stains the author states that there are no means by which menstrual blood can be differentiated from blood from a wound, yet this formed an important point in the Tucker trial, where the presence of menstrual blood was determined by the association of vaginal cells. The author is up to date in his illustrations and references, using the Crippen case for proof of the positive application of the Vitali test to vegetable alkaloids (hyoscin, hyoscyamin and atropin) alone, and not to the mydriatic animal alkaloid (ptomaines). Full attention is paid to the danger of water gas with its dangerous carbon monoxide. Another fact upon which he dwells, illustrated by a fatal case of poisoning, is that illuminating gas may make its way into a house from a broken street main, cause the death of an individual in the room, without an explosion, though a burning light was constantly present. His differential diagnosis of the causes of unconsciousness could be read with profit by every police surgeon, where the presence of cerebral disease or alcoholism has often to be decided and by whom a mistake is frequently made. Although, as stated, the practices of the courts of Britain differ from those of our own, so much marked good sense is contained in this book that it can be perused with profit by all interested in medical jurisprudence.

Practical Sanitation. By GARDNER AND SIMONDS. St. Louis: C. V. Mosby Company. 1914.

The authors of this book have accomplished their object of providing a plain, non-technical exposition of the duties of the health officer. With this volume at hand the health officer should certainly be able to cope more efficiently with the exigencies of his duties. It is obviously not intended for the man in charge of large city or state health organizations, but should admirably meet the needs of the health official of small municipal or rural communities, and should be readily comprehensible to the non-medical man.

Part I, which takes up the consideration of epidemiology, gives information in regard to the management of epidemics, isolation and quarantine, isolation hospitals and camps, and disinfection, which could not readily be found except by a man with a large library at hand. The grouping of the diseases is perhaps not entirely logical, and the discussion of the diseases might well be more from a sanitary and hygienic point of view rather than clinical.

Part II, on general sanitation, should prove extremely valuable as indicating the lines along which the duties and opportunities of the health officer lead, and in guiding him in the methods of carrying out his work. The all-important subject of vital statistics is given due prominence, and is presented in such a manner as to enable the local health officer to keep satisfactory records of his community, even though he had no previous statistical training. In this section of the book are also taken up such matters as the inspection of schools, factories, and public institutions, the disposal of sewage and garbage, the subject of soil pollution, the conduct of various campaigns, as those against rats and flies, and finally the inspection of food, including milk and water.

Of course the legal aspect of health work could not be given a comprehensive discussion in a book of this nature, as the problem is one which varies with each community; but a number of valuable hints are given which should be of great value to the sanitarian in his relation with the law.

Part III, which deals with laboratory methods, would be of more value if, instead of limiting itself too much to methods of collecting samples and transporting them to the laboratory, would take up at least the simpler laboratory technic in a manner which would enable the reader to undertake these processes.

The book on the whole, while not being a textbook on sanitation, undoubtedly fills a long-felt want, and should go far toward improving the health administration of the smaller localities. The principles laid down are certainly in accord with the accepted teachings, and while being thoroughly up to date, do not advocate any of the extremely recent and untried methods.

THE BOSTON

Medical and Surgical Journal

THURSDAY, JUNE 18, 1914.

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ANNOUNCEMENT.

ON April 10, 1914, the BOSTON MEDICAL AND SURGICAL JOURNAL passed into the hands of new owners. On June 10, 1914, the Council of the Massachusetts Medical Society adopted the recommendations of its Committee of Nine, looking toward an affiliation between the Massachusetts Medical Society and the BOSTON MEDICAL AND SURGICAL JOURNAL.

We, the new owners, desire to express our appreciation of the confidence thus shown in the new management, and assure the members of the Massachusetts Medical Society that we will make it one of the chief concerns of the JOURNAL efficiently to serve the Society, whose official organ it will thus become. We feel that with this association the first step has been taken toward enlarging the scope of the JOURNAL.

We recognize the dignified position which this, the oldest weekly medical journal in America, has always held. Our purpose is to maintain this position of dignity. Our hope is that in the future the JOURNAL may become the most important medium of expression for scientific and clinical medicine in the East, and with courage and timeliness may serve the needs of the community.

Our predecessors in ownership accepted the JOURNAL as a trust, deriving no personal profit therefrom. We, in the same spirit, agree to devote to the realization of those hopes we have expressed, any revenue above expenses which the JOURNAL may afford.

We shall welcome criticism of every sort and from all sources, and we ask the help of all those who have the best interests of medicine at heart.

JOEL E. GOLDTHWAIT, M.D.,
EDWARD C. STREETER, M.D.,
HUGH WILLIAMS, M.D.

MASSACHUSETTS MEDICAL SOCIETY.

THE one hundred and thirty-third annual meeting of The Massachusetts Medical Society was held in Boston on Tuesday and Wednesday of last week, June 9 and 10. The weather of the first day was unseasonably cold, that of the second day very hot; but all the exercises and sessions were well attended.

During the forenoon of June 9 members of the Society were invited to attend specially arranged medical and surgical clinics and demonstrations at the principal Boston hospitals. The annual meeting of the Council was held at noon on this day, and in the afternoon the sections of medicine, surgery, and tuberculosis held their separate sessions at the Copley-Plaza Hotel.

The Shattuck Lecture was delivered in the evening of June 9 by Dr. Herbert C. Moffitt of San Francisco, Cal., and was well received by a large audience of members. It will be published in full in a later issue of the JOURNAL. Following the lecture there was an informal reception by the President and a most enjoyable pop concert, with light refreshments, in the ball room.

On the morning of Wednesday, June 10, the annual meeting of the Society was held at the Copley-Plaza. Dr. Charles F. Withington, of Boston, was elected president for the ensuing year. Dr. Samuel B. Woodward, of Worcester, was elected vice-president; and Dr. Everett A. Bates, of Springfield, orator to deliver the annual discourse in 1915. At noon the annual discourse of this year was delivered by Dr. Horace D. Arnold, dean of the Harvard Graduate School of Medicine.

Dr. Arnold touched upon many current medical and sociologic problems, on medical education, the registration of physicians, health education of the public, the milk problem, and med-

ical legislation. Of the recent anti-vaccination movement, he spoke as follows:—

"Our recent experience with the vaccination laws shows the danger of public indifference. The present generation knows practically nothing about this loathsome disease of smallpox, which was formerly a veritable scourge, and a great many physicians have never seen a case. People have come to accept this freedom from smallpox as a matter of course, and they are apt to forget that constant vigilance on the part of the health authorities and the continued protection of vaccination alone stand between them and the possibility of a serious outbreak of this disease. It is greatly to the credit of the representatives that they were not carried off their feet by the fierce onslaught of the friends of the bill.

"The danger is passed for the time being, but it is not eliminated. But in this connection the medical profession has a duty to itself. It should see that its members are above criticism in the way vaccination is performed. Let us be frank about the matter. There is danger in vaccination—not in the vaccine itself, but in careless methods of using it. In Massachusetts a clean safe virus is furnished by the state to all citizens free of charge. It is a fact that a certain small number of cases of infection do result either because the physician is careless in the operation or because he does not sufficiently instruct the patient about the after-care. It should be considered as much a disgrace to a physician to have an infected wound follow vaccination as it is to have it follow a surgical operation, for it is equally avoidable.

"This is an active issue between the profession and the public. A certain number of persons have just reason to complain of the results of vaccination when it has been improperly performed. In their ignorance they attach the blame to the procedure itself, instead of to carelessness. And the reputation of the whole profession suffers because we thus tacitly shoulder the errors of incompetent practitioners."

In the afternoon of June 10 the combined meeting of the three sections of the Society was held at the Massachusetts General Hospital. The annual dinner at the Copley-Plaza in the evening was attended by 850 members and guests. The retiring president, Dr. W. P. Bowers, of Clinton, Mass., was toastmaster, and addresses were made by Governor Walsh, Bishop Lawrence, Dr. Frederick C. Shattuck of Boston, Dr. Edward L. Martin of Philadelphia, Dr. Herbert C. Moffitt of San Francisco, Dr. James W. Kerr of Washington, assistant surgeon-general of the United States Public Health Service, and Dr. Withington, the president-elect of the Society.

The meeting was in every feature a success, and especial credit is due the members of the committee of arrangements, whose efficiency and hard work made this success a possibility and a reality.

MEDICAL LEGISLATION. MASSACHUSETTS STATE BOARD OF INSANITY.

WHILE the subject of the organization of the Massachusetts State Board of Insanity, to which we made editorial reference in the issue of the JOURNAL for April 9 (p. 584), is under consideration by the joint legislative committees on ways and means and public institutions, a tentative bill has been prepared for discussion by those committees. This bill provides for a board of insanity, to consist of three members, to be appointed by the governor for terms of three years, one to retire every year, and each to be paid a salary.

"The chairman is to be designated by the governor and all are to devote their whole time to the work. At least one member must be an expert in matters relating to insanity and the insane. The bill removes prohibition against the appointment of members of the present General Court. Any member may for cause be removed by the governor. The bill also provides for a paid executive secretary, who must be a physician and an expert on insanity.

"In addition to its present powers, the board is given charge of all insane, feeble-minded, and epileptic persons, and persons addicted to the intemperate use of narcotics or stimulants, the care of whom is vested in the Commonwealth by law, and of all institutions or buildings owned by the Commonwealth and used for the care of such persons. The Norfolk State Hospital and the hospital cottages for children are excepted. These are to be in charge of the State Board of Charity.

"For each institution under control of the board there is to be a board of seven trustees, five men and two women. There must be thorough visitations of each institution by two of the trustees at least once in two weeks, and by a majority of them quarterly, and by the whole board semi-annually; and after each of such visits a written account of the condition of the institution must be transmitted to the State Board of Insanity. The trustees are to receive no compensation for their services."

In general, the provisions of this plan seem well conceived and adequate. Its further discussion in committee will doubtless lead to suggestions for its satisfactory improvement.

THE SURGEON-GENERAL'S LIBRARY.

IN the United States Army appropriation bill, which passed the Senate some weeks ago, it was provided that the appropriation for the Surgeon-General's Library shall be conditional upon its merging with the Congressional Library, of which it shall became a subordinate department. This provision was inserted without consultation with either the surgeon-general or the librarian of congress, and seems a most unwarrantable piece of aggression. As a matter of fact both of them are opposed to the change. Whatever might be the administrative conveniences of such a step, they would be more than outweighed by the disadvantages of curtailing the independence and abrogating the autonomy of the largest and most valuable medical library in America. It is sincerely to be hoped that this objectionable provision will be stricken from the appropriation bill in its consideration before the House.

MEDICAL NOTES.

LONDON DEATH-RATES IN APRIL.—Statistics recently published show that the total death-rate of London for April, 1914, was only 13.8 per 1000 inhabitants. Among the several districts and boroughs the highest rate was 19.1 in Finsbury, a crowded central slum, and the lowest was 9.9 in Lewisham, a suburb on the south.

AN OUTRAGE IN DUNDEE.—The following political outrage at Dundee is reported in a recent issue of the *Lancet*:—

"A new hospital for women in Dundee, which was on the point of completion, was partly destroyed by fire in the early morning of May 22nd. The hospital was to have been opened next week. The damage is estimated at some £2000 or possibly more. The hospital, a two-storied building, was erected through the liberality of a number of leading citizens, and was designed to take the place of the present hospital for women in Seafieldroad, which falls to be vacated next week. The new hospital was begun nearly two years go, and every effort was being made to get it ready for occupation. It is generally assumed that the fire was the work of suffragists. Messages such as are common in other incidents of the kind were found. It is believed that six months will be required to get the damage repaired, and although the numbers at the old hospital were being kept down with a view to the removing from one premises to the other, it is probable that temporary accommodation will have to be provided. Fortunately the loss is covered by insurance."

EXPERIENCE WITH VACCINATION AT BELFAST.—In connection with our recent local discussions about vaccination, the following item from Belfast, Ireland, seems of interest:—

"A convincing statement has been sent to the Belfast board of guardians from the council of the Ulster Medical Society and from the executive committee of the British Medical Association (Belfast division) in reference to the campaign now being conducted in Belfast against vaccination. Details of local experience and of great importance are given. In the last outbreak of smallpox in Belfast (1904-05) out of 178 cases there were 9 deaths. Of those attacked, 146 had been vaccinated and 2 of them died, while of 32 who had never been vaccinated 7 died. Thus, 1 out of every 5 unvaccinated people who contracted smallpox died, while of every 73 vaccinated only one succumbed. There was not a single case of smallpox in a revaccinated person. Moreover, the medical superintendent of the Belfast Fever Hospital, whose experience extends over 20 years and covers six outbreaks, has never had a case of smallpox in a revaccinated person."

HONOR FOR DR. LOEB.—It is announced that Dr. Jacques Loeb, of the Rockefeller Institute for Medical Research, has been elected a corresponding member of the section of anatomy and zoölogy of the Paris Academy of Sciences, in succession to the late Lord Avebury.

HONORARY DEGREE FOR DR. AGRAMONTE.—At the recent commencement exercises of Columbia University, one of the seven honorary degrees of D.Sc., was conferred on Dr. Aristides Agramonte, of Havana. In awarding the degree President Butler addressed Dr. Agramonte as follows:—

"Aristides Agramonte—Bachelor of Arts of the University of Havana, and Doctor of Medicine of Columbia University of the class of 1892; sole survivor of a famous group of scientists and public servants who, in order to test the theory of the transmission of yellow fever by mosquitoes, began the experiments on themselves; and who have lived to see your native island freed, largely through your own efforts, of its worst scourge; professor of bacteriology and experimental pathology in the University of Havana."

No one can fail to recall in this connection President Eliot's characterization of Dr. Walter

Reed, in conferring upon him the honorary degree of A.M. at Harvard in 1902, as "the army surgeon who planned and directed in Cuba the experiments which have given man control over that fearful scourge, yellow fever."

PLANS FOR A NATIONAL LEPROSARIUM.—Report from Washington, D.C., states that on June 4 two bills pertaining to leprosy were introduced into the national House of Representatives. One of these authorizes the surgeon-general of the United States Public Health Service to select an island in any insular or territorial possession for use as a national home for lepers, appropriating $150,000 for that purpose. The other bill appropriates $500,000 for the same purpose, the site for the leprosarium to be selected by the surgeons-general of the Army, Navy, and Public Health Service.

A CENTENARIAN.—Mrs. Anthony Lossaso, who died on June 7 at Paterson, N.J., is said to have been born in 1804 in Italy. She married her fifth husband in 1909.

THE ITALIAN QUINTUPLETS.—In the issue of the JOURNAL for May 28, we published a communication relative to the reported birth of quintuplets at Palermo in Italy. In the issue of *La Domenica del Corriere*, a Milan paper, for May 31, is a statement confirming this report, with a colored frontispiece showing the parents, the doctor, and five nurses holding the five babies.

BOSTON AND NEW ENGLAND.

CASES OF INFECTIOUS DISEASES reported to the Boston Board of Health for the week ending June 9, 1914: Diphtheria, 45, of which 2 were non-residents; scarlatina, 68, of which 9 were non-residents; typhoid fever, 3; measles, 168, of which 1 was non-resident; tuberculosis, 77, of which 1 was non-resident.

The death-rate of the reported deaths for the week was 16.04.

FIFTIETH ANNIVERSARY OF BOSTON CITY HOSPITAL.—Invitations are issued by the Trustees of the Boston City Hospital to the semi-centennial observance of the opening of the hospital, which will be celebrated with appropriate exercises in the surgical amphitheatre on Saturday of this week, June 20, at 11.30 a.m. The twenty-fifth annual meeting of the Boston City Hospital Alumni Association will be held at the Copley-Plaza Hotel on the same day, at 6.30 p.m. Dinner will be served at 7 o'clock, immediately after the business meeting. Dr. Philip Coombs Knapp will preside. The following are the invited guests, some of whom will speak: The Trustees of the Hospital, His Excellency the Governor of Massachusetts, His Honor the Mayor of Boston, Hon. Samuel W. McCall, Major-General Hugh Bancroft, Herbert G. Woodworth, Esq., Dr. Josiah N. Hall, Dr. H. C. Baldwin, Dr. John G. Blake, and the President-elect of the Alumni Association.

LIVING CENTENARIANS.—Mary Everett, of Fort Fairfield, Me., is said to have been born in 1812. She recently made a journey alone to the West to visit her daughter.

Mrs. Lemuel Cox, of Malden, Mass., is said to have been born in that city in June, 1812. All of her seven children are deceased, but her own health remains excellent.

TWO VENERABLE PHYSICIANS.—It is a noteworthy fact, at this commencement season, that the oldest living graduate of both Harvard and Yale is a physician. Dr. James Lloyd Wellington, of Swansea, Mass., graduated from Harvard in 1838; and Dr. David F. Atwater, of Springfield, Mass., from Yale in 1839.

NEWTON HOSPITAL TRAINING SCHOOL.—The annual graduation exercises of the Newton (Mass.) Hospital training school were held in that city on June 4. The principal address was made by Dr. Joel E. Goldthwait, of Boston, and diplomas were awarded to 21 graduating nurses.

OPEN AIR SCHOOL ON CASTLE ISLAND.—Beginning the last week in June, an open air school will be maintained through the summer on Castle Island in Boston Harbor by the Boston Dispensary, the Boston Instructive District Nursing Association, and the Boston Society for the Relief and Control of Tuberculosis. This school, which is intended as a successor to the former one at Franklin Park, is designed not for children actually tuberculous, but for those predisposed to tuberculosis, whose resistances it is hoped by this measure so to strengthen that they may become capable of successfully avoiding subsequent infection.

MILK AND BABY HYGIENE NURSES.—It is announced that of the $2000, for which an appeal was made by the Boston Milk and Baby Hygiene Association in the issue of the JOURNAL for May 28, $1000 have already been raised, and additional nurses have in consequence been assigned to the milk stations in South Boston, East Boston, and the West End. Other nurses will be assigned as soon as the remainder is subscribed.

HOSPITAL BEQUESTS.—The will of the late Nellie H. Bonney, of Haverhill, Mass., which was filed in the probate court at Salem, Mass., on June 5, contains ultimate reversionary bequests of $5000 each to the Hale Hospital, Haverhill, and the Boston Floating Hospital.

The will of the late Esther F. Emerson, of Gloucester, Mass., contains a residual reversionary bequest for the foundation of a memorial hospital at Milford, Mass.

NEW YORK NOTES.

LEGACY BY DR. BRYANT.—By the will of the late Dr. Joseph D. Bryant, professor of surgery in the University and Bellevue Hospital Medical College, a trust fund of $1,000 is established for the benefit of New York University. The directions regarding it left by Dr. Bryant were as follows: "The income of this fund shall be devoted to instilling in the minds of the senior class the principles of ethics of the American Medical Association. This bequest is made in the belief that early admonition and the implanting of preventive means to seductive inclinations or dangers is the surest method of securing ethical practice in human affairs" Upon the death or remarriage of his widow, one-seventh of Dr. Bryant's residuary estate is to be given in trust to New York University, and one-seventh in trust to the New York Academy of Medicine. One contingent bequest of $10,000 is to be devoted to opposing the efforts of anti-vivisectionists in New York State.

BELLEVUE HOSPITAL.—The present house staff of Bellevue Hospital appears to be unusually rich in musical talent. On June 7 nine of its members, for the entertainment of the patients, gave on the hospital grounds an orchestral concert which was much appreciated by an audience of more than 1,200, including Dr. Brannan, president of the board of trustees, and Drs. O'Hanlon and Fleming, the medical superintendent and assistant superintendent of the hospital.

MORTALITY FOR WEEK ENDING JUNE 6, 1914.—There were 1291 deaths and a death-rate of 12.06 per 1000 of the population reported during the past week, as against 1447 deaths and a rate of 14.05 during the corresponding week of 1913, an absolute decrease of 156 deaths and of 1.99 points in the weekly rate, which is equivalent to a relative decrease of 213 deaths.

The following causes showed material decreases: measles, scarlet fever, diarrheal diseases under five years, digestive diseases other than diarrheal, acute respiratory diseases. Those causes showing an increased mortality were diphtheria and croup, whooping cough, typhoid fever, cerebrospinal meningitis, organic heart disease and violence. The mortalities from pulmonary tuberculosis, Bright's disease and nephritis, and diseases of the nervous system, were approximately the same as those for the corresponding week of last year.

Viewed from the point of age grouping there was a tremendous decrease in the mortality among infants under one year, there being 91 less deaths reported at this age. The mortality between one and five years of age was slightly lower, there being nine less deaths at this age period; between the ages of five and sixty-five years there was a decreased mortality of 85 deaths. The only age group that showed an increased mortality was that of over sixty-five years of age, there being 29 more deaths reported.

The death-rate for the first twenty-three weeks of 1914 was 15.15 per 1000 of the population, a decrease of .21 of a point compared with the corresponding period of 1913.

LONG ISLAND COLLEGE HOSPITAL.—At the annual meeting of the Association of Alumni of Long Island College Hospital at the Polhemus Memorial Clinic, on the evening of June 9, a striking announcement was made concerning the reorganization of the institution. A fifth year medical course has been adopted and the curriculum has been entirely changed to meet modern demands. Students will be accepted from the high school upon possession of a full medical student's certificate, and they will enter the preliminary year for instruction in chemistry, physics, biology, French or German, physiology and embryology. The freshman and sophomore

years will be devoted exclusively to the laboratory branches, and the various laboratories have been equipped with the latest and best apparatus. The junior year will include clinical work in medicine and surgery and daily dispensary work, while the fifth year will be devoted entirely to bedside work. Every clinical branch will have a full quota of resident full-time instructors.

Long Island College Hospital has at this time 300 beds and there is in course of construction a large wing which will give the institution 450 beds, making it one of the largest hospitals in New York. The clinical material in the hospital will be available for the students of the medical school, and the very close connection between the hospital and the college gives the students unsurpassed opportunities for bedside instruction. There has also been a considerable change in the faculty, and this reorganization, together with the addition of several full-time instructors, will give the institution a teaching staff of decided strength.

AWARD OF LUCIEN HOWE PRIZE.—It is announced that the Lucien Howe prize of the New York State Medical Society has been awarded to Dr. Mark J. Schönberg for his research work on ocular anaphylaxis.

Current Literature

MEDICAL RECORD.

MAY 30 1914.

1. LEVERETY, A. S. *A Clinical Study of Traumatic Nerve Paralysis.*
2. FREUDENTHAL, W. *The Management of Laryngeal Tuberculosis in Sanatoria and Private Practice.*
3. ROCKWELL, A. D. *Observations Based upon Forty-Five Years of Electrotherapeutic Work.*
4. DRUSKIN, S. J. *Cesarean Section. Three Methods of Performing the Operation, with Illustrative Cases.*
5. VANDEGRIFT, G. W. *Tobacco Amblyopia.*
6. PEASE, M. C. *The Provocative Wassermann Reaction.*
7. MUNRO, H. S. *The Prevention of Psychic Trauma.*
8. DICKINSON, G. K. *Divulsion of Arm and Scapula.*

NEW YORK MEDICAL JOURNAL.

MAY 30, 1914.

1. EINHORN, M. *Habitual Constipation and Its Treatment.*
2. WOHL, M. G. *The Present Status of Abderhalden's Reaction.*
3. CORNWALL, E. E. *Lobar Pneumonia.*
4. BISCH, L. E. *The Recognition of Mental Deficiency.*
5. WOODBURY, F. *The Treatment of the Insane in the Tropics.*
6. HINKLE, B. M. *Jung's Libido Theory and the Bergsonian Philosophy.*
7. VANDIVER, A. C. *The Legal Status of Trained Nurses in the Administration of Anesthetics.*
8. GUTTMAN, J. *Hydrorrhea Nasalis.*
9. GERHARD, S. P. *The Medical Colors.*
10. KLEIN, S. R. *Capital Punishment in the Electric Chair.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

MAY 30, 1914.

1. SIMON, C. E. *The Abderhalden-Fauser Reaction in Mental Diseases, with Special Reference to Dementia Precox.*
2. *JANEWAY, H. H. *Results of Radium in Cancer.*
3. *MCCASKEY, K. W. *The Autoserosalvarsan Treatment of Syphilis of the Central Nervous System.*
4. BURR, C. W. *Chronic Dementia, Cerebellar Ataxia and Epileptiform Convulsions in a Boy Caused by Ptomain Poisoning from Eating Canned Salmon.*
5. SULLIVAN, R. Y. *Pregnancy and Labor Complicated by Carcinoma of the Cervix Uteri.*
6. DAVIS, B. F. *Paraffin Cancer. Coal and Petroleum Products as Causes of Chronic Irritation and Cancer.*
7. ROYSTER, H. A. *Elephantiasis and the Kondoleon Operation.*
8. WERELIUS, A. *Traumatic Detachment of the Bladder from Symphysis Pubis, with Complete Severance of Urethra. Use of the Labia Minora as a Substitute for Necrosed Anterior Vaginal Wall.*
9. REYNOLDS, H. S. *A Case of Acute Nicotin Poisoning of Peculiar Origin.*
10. STIMSON, G. W. *Deaf-Mutism (Labyrinthine Deafness) as a Result of Purpura Hemorrhagica.*
11. KING, J. J. *A Satisfactory Local Anesthesia for the Submucous Resection of Nasal Septum.*

1. Simon finds that a sex gland reaction, such as the Abderhalden test, may be obtained in nearly, if not all, cases of dementia precox at some stage of the disease, but that the reaction is not specific of dementia precox, as Fauser would have us believe. The author quotes a large amount of information from the literature and the paper is a well written treatise on this subject.

2. Janeway, considering the results so far reported on the treatment of cancer with radium, especially those of Wickham, makes the definite statement of its value about as follows: All operable cancers should be operated on immediately without delay. This is an absolutely fixed rule. Radium has no place in this type of growth. Radium confines its value to superficial growths, for it has been found that its more fully penetrating rays may even stimulate the growth of cancer cells situated deeply beneath those under treatment.

3. McCaskey's article is a description of refinements in technic of administration. [E. H. R.]

THE LANCET.

MAY 9, 1914.

1. ORMEROD, J. A. *The Lumleian Lectures on Some Modern Theories Concerning Hysteria. Lecture III.*
2. *ELLIOTT, T. R., AND DINGLEY, L. A. *Massive Collapse of the Lungs Following Abdominal Operation.*

3. *SWAN, R. H. J. *Tumors of the Urinary Bladder.*
4. *JEFFERSON, G. *Death from Hyperacute Streptococcal Infection (Strepticemia) Following Radical Removal of Cervical Tuberculous Glands with Sinuses.*
5. SHEILL, S. *Congenital Icterus.*
6. CORNER, E. M. *The Rôle of the Crucial Ligaments in Hemarthrus and Injuries to the Knee.*
7. WELCH, H. V. *A Case of Carcinoma of the Breast in a Male.*
8. VERDON, H. W. *A Note on the Aspiratory Function of the Heart.*

2. The writers have studied eleven cases of post-operative collapse of the lung and discuss this condition. Each had muco-purulent expectoration and high fever preceding the collapse, thereby closely resembling pneumonia. There is cardiac displacement toward the affected side and compensating emphysema of the sound lung. Pain and cyanosis may develop. At first there is dullness, immobility, weak breath sounds on the affected side, which later becomes bronchial. Usually, all signs vanish in two to three days, but in some cases a true pneumonia may develop. Expectorants should be given, and deep breathing encouraged.

3. Swan classifies, discusses and describes the various tumors of the bladder and remarks briefly on prognosis and treatment.

4. Jefferson describes a fatal case of operation for removal of tuberculous cervical glands and calls attention to the fact that this operation is not free from danger, particularly if discharging sinuses are present. [J. B. H.]

MAY 16, 1914.

1. WATERSTON, D. *Arris and Gale Lecture on the Development of the Heart in Man in Relation to Its Functional Activity.*
2. BATTLE, W. H. *The Diagnosis of Appendicitis.*
3. *PRITCARD, E. *Common Errors in the Treatment and Diagnosis of Dietetic Disorders in Infants.*
4. MOULLEN, C. M. *A Case of Sub-total Gastrectomy Performed for Cancer of the Stomach Five Years Ago.*
5. HICKS, B. *A Pedunculated Intrabronchial Tumor (Sarcoma) Causing Bronchiectasis.*
6. *WALTON, A. J. *A Consideration of Some Cases of Exophthalmic Goitre Treated by Operation.*
7. WENGLOWSKI, R. *Malignant Tumors of Bones: a New Method in Conservative Operative Treatment.*
8. CUMBERBATCH. *The Influence of the X-rays on Some Cases of Persistent Suppuration.*

3. Pritchard discusses in an interesting and practical way the subjects of diarrhea, constipation and colicky pains in infants, the mistakes frequently made in the treatment of such conditions and the best methods of procedure.

6. Walton discusses the following postulates as to exophthalmic goitre: (*a*) That the disease is due to an excess of thyroid secretion. (*b*) That the results of medical treatment are unsatisfactory. (*c*) That the operative mortality is not unnecessarily high. (*d*) That the results of surgical treatment are very satisfactory. (*e*) That the danger of post-operative myxedema is slight. He presents in detail ten cases on which he has operated. [J. B. H.]

MAY 23, 1914.

1. *PINCH, A. E. H., AND ALTON, W. L. S. *A Report of the Work at the Radium Institute from Jan. 1 to Dec. 31, 1913.*
2. *INMAN, A. C. *The Diagnosis of Pulmonary Tuberculosis: the Value of Besredka's Antigen in the Complement Fixation Test for Tuberculous Disease.*
3. LAKE, R. *Remarks on the So-called Re-education of the Deaf.*
4. OERTEL, H. *A Contribution to the Knowledge of Experimental Nephritis.*
5. MCDONAGH, J. E. R. *Observations on Syphilis of the Central Nervous System, with a Note on Salvarsan.*
6. THOMAS, J. L. *Note on a New Combined Method of Prostatectomy.*
7. ROTH, P. B. *A Case of Congenital Defect of the Ulna.*
8. WARD, G. R. *Secondary or Symptomatic Leukemia.*
9. HOUSTON, T., AND THOMSON, W. W. D. *Bacillus Coli as a Cause of Septic Onychia.*
10. REYNOLDS, W. G. *A Case of Tetanus Treated with Subcutaneous Injections of Carbolic Acid. Recovery.*
11. RAMSAY, W. *Nilton as a Therapeutic Agent.*

1. This report of the Radium Institute is a detailed tabulation of cases and results obtained at the Radium Institute during the past year. It presents results on 972 cases of various kinds.

2. This work of Inman's will be of great interest to scientists and to those specially interested in tuberculosis. A repeated negative reaction indicates the absence of an active lesion. It is distinctly a laboratory procedure. [J. B. H.]

BRITISH MEDICAL JOURNAL.

MAY 9, 1914.

1. *LAZARUS-BARLOW, W. S. *The Cause and Care of Cancer Viewed in the Light of Recent Radiobiological Research.*
2. *RIDDELL, J. R. *Radium in the Treatment of Malignant Disease.*
3. *CLARKE, J. M., AND LANSDOWN, R. G. P. *Intramedullary Tumor of Spinal Cord; Treatment by Laminectomy and Application of Radium.*
4. *HERNAMAN-JOHNSON, F. *On the Respective Advantages and Disadvantages of X-rays and Radium in the Treatment of Cancer.*
5. GRACE, J. J. *Painful Shoulders and Their Treatment by Physical Measures.*
6. MARSHALL, G. *Interlobar Empyema.*
7. SOUPER, H. R. *Veronal Poisoning; Recovery after One Hundred Grains.*

1. Barlow discusses the cancer problem and its relation to radium in great detail, and is evidently a firm believer that radium will prove of constantly increasing benefit in curing and alleviating cases of this disease. The class of cases in which radium should be used, precautions to be taken, and other practical considerations are given in detail.

2, 3, and 4. These are short articles describing the use of radium in specific cases of cancer of various forms and the results obtained, as well as the relative advantages of radium and x-rays in such conditions. [J. B. H.]

MAY 16, 1914.

1. MACKENZIE, J. *The First George Alexander Gilson Memorial Lecture.*
2. *RUSSELL, W. *Phenomena Attributable to Spasm of Cerebral Vessels (Angiospasm).*
3. AULD, A. G. *Oxygen Want and the Means of Its Relief.*
4. *SHAW, B. H. *The Relation between Epilepsy and Tuberculosis.*
5. WHELAN, J. H. *Strychnine-Tuberculin Treatment of Hospital Tuberculous Cases.*
6. *LECKIE, A. J. B. *The Cutaneous Tuberculin Reaction of Von Pirquet.*

2. Russell discusses angiospasm, its cause, diagnosis, symptoms and treatment in an interesting and practical way.

4. Shaw seems to feel that epilepsy may be a manifestation of an early or latent tuberculous infection. He has found an amazingly high percentage of tuberculous infection among epileptics and is of the opinion that there must be therefore some relation between the two conditions. His remarks are interesting, but need confirmation.

6. Leckie, as a result of his investigations, concludes that the cutaneous tuberculin reaction is of no prognostic or diagnostic value, especially in adults and that cases of rheumatism give more positive results than tuberculous individuals, and that early and late reactions have no clinical significance. (These remarkable statements are interesting, if true.) [J. B. H.]

MAY 23, 1914.

1. *LOCKWOOD, C. B. *The Objections to the Incomplete Operation for Cancer of the Breast.*
2. *PINCH, A. E. H. *A Report of the Work Carried Out at the Radium Institute, London, in 1913.*
3. HADLEY, E. C. *A Case of Multilocular Cystic Disease (Cystadenoma) of the Pancreas.*
4. PANNETT, C. A. *Acute Obstruction of the Small Intestine.*
5. PORRITT, N. *Pituitrin in Post-operative Intestinal Stasis.*
6. FENWICK, W. S. *Ileo-colic Intussusception in a Child of Four Months; Resection; Lateral Anastomosis.*
7. CORNER, E. M. *Further Experiences in the Treatment of Imperfectly Descended Testicles.*
8. CANDLER, A. L. *Experimental Proof of the Value of a Mask over the Surgeon's Mouth During Operations.*

1. Lockwood urges the complete radical operation in all cases of breast cancer and presents details of results obtained in 25 cases.

2. *Cf., Lancet*, May 23, 1914. [J. B. H.]

BERLINER KLINISCHE WOCHENSCHRIFT.

No. 16. APRIL 20, 1914.

1. RUSSELL, B. R. G., AND BULLOCK, W. E. *The Length of Life of Carcinoma Cells at 37° C.*
2. FRIEDENTHAL, H. *Infant Feeding on a Physiologic Basic with Friedenthal's Modification and Vegetable Powder.*
3. *HARTTUNG, H. *Kidney Infection and Retention of Urine.*
4. PLESMANN. *The Treatment of Bronchial Asthma and Chronic Bronchial Catarrh by Inhalations (with an Atomizer) of Glycerine.*
5. HELLER, J. *The Microscopic Anatomy of the Oldest Preserved Mammalian and Human Skin (Mummies, etc).*
6. GRUMME. *On the Theory of Graves' Disease, Myxœdema, Cretinism, and Endemic Goitre, Hyper- and Hypo-thyroidism.*
7. KEETMANN, B. *The Tissue Absorption of Beta, Gamma, and Roentgen Rays.*
8. WECKOWSKI. *A Rotatory Apparatus for Giving Radium Emanations.*
9. MELTZER, S. J. *The Present Status of Intratracheal Insufflation.*
10. BÖHM, M. *Orthopedic Measures for the Children of the Berlin Parish Schools.*

3. Harttung reports a series of over sixty experiments in guinea-pigs, in which he caused an artificial hydronephrosis on one side by obstructing the ureter, and then observed the reaction of the diseased, in comparison with the well kidney, to various infections. In one set of cases he noted that after injection of living bacteria into the blood stream the uninjured kidney would show no pathological changes, while the other would have broken down in a suppurative process. The whole work emphasizes the great importance of hydronephrosis, whether congenital or acquired, in the etiology of renal infections. [R. H. M.]

ARCHIV FÜR KLINISCHE CHIRURGIE.

VOL. 104. PART I.

1. *LICK, E. *Early Operation in Basedow's Disease.*
2. EDEN, R., AND REHM, E. *Autoplastic Fat Transplantation for Neurolysis and Tendinolysis.*
3. IWASAKI, K. *Primary Sarcoma of the Gall-bladder.*
4. CARNELLI, R. *Traumatic Perforation with Peritonitis in a Walking Typhoid Case. Observations on Slight Abdominal Injuries.*
5. HOFMANN, W. *Functional Tests for the Heart and Their Practical Value for Surgeons.*
6. SCULTZE, E. O. P. *Habitual Dislocation of the Shoulder. Clinical and Experimental Work.*
7. GONTERMANN. *Hernia Supravesicalis Cruralis, with Involvement of the Ligamentum Umbilicale Laterale in the Hernial Sac.*
8. SCHEUERMANN, H. *Operative Treatment of Movable Kidney. Observations on One Hundred and Eighty-Nine Cases Operated by Rovsing's Method from 1897-1911.*
9. EDEN, R. *Joint Chondroma.*
10. BERESNEGOWSKI, N. *The Use of the Isolated Omentum for Control of Liver Hemorrhage. Experimental.*

1. Lick believes that early operation is indicated in all definite cases of Basedow's disease, as soon as the diagnosis is made. Thus the other organs (heart, liver, kidneys, etc.) are spared the irreparable injury which they would otherwise sustain. Operation in early stages is easier, and can be made more complete. The danger of recurrence is thereby lessened, and the exophthalmos will completely disappear. [G. G. S.]

DIE THERAPIE DER GEGENWART.

MARCH, 1914.

1. SCHREIBER, E. *The Present Status of Active Immunization against Diphtheria (von Behring's Method.)*
2. KLEMPERER, G., AND JACOBY, M. *The Treatment of Cystinuria.*
3. LEWIN, C. *Radium Therapy in Carcinoma of the Esophagus and Cardia.*
4. *JAKOBI, J. *The Clinical Value of "Adigan," a New Digitalis Preparation.*
5. BLUMENTHAL, F., AND LEWIN, C. *Further Studies on the Treatment of Sarcoma in Rats with Extracts of the Same Kind of Tumors.*
6. DOHRN, M. *Emil Fischer's Syntheses of Purin Glucosides.*
7. HOEFER, S. *Progress in the Knowledge and Treatment of Diseases of Children.*
8. ALTERTHUM, E. *The Treatment of Gynecological Conditions with Yatren (Tryen).*
9. CASSEL, H. *Experiences with Narcophin.*
10. KÄRCHER, M. *The Action of Digifolin.*
11. SCHATTANER, F. *On Dermotherma, a Formaldehyde Camphor Ointment.*
12. GERSON, K. *The Prevention of Flat-Foot in Certain Vocations.*

4. Jakobi reports from a study of adigan that in a limited class of cases it gives good results and does not cause untoward symptoms. Adigan is made in tablets of 1 c.c. each, the usual dose being 2 to 5 tablets a day. [L. D. C.]

APRIL, 1914.

1. PETERSEN, O. H. *The Neer Methods of Bloodless Treatment of Tuberculosis of the Cervical Glands.*
2. HEINEMANN, O. *The Curability of Multiple Abscesses of the Liver, and Their Diagnosis.*
3. SUSSMANN, M. *The Technic of Gastroscopy.*
4. HEIMANN, F. *The Serum Treatment of the Dermatoses of Pregnancy.*
5. POLLAND, R. *The Treatment of Syphilis with Embarin.*
6. LOEB, W. *The Phenoval Content of the Body.*
7. HOEFOR, S. *Progress in the Knowledge and Treatment of Diseases of Children.*
8. FRANKE, F. *A Contribution to the Treatment of Crural Ulcers.*
9. STEINER, F. *Permanent Dressings.*
10. *FROELICH, E. *A New Hypnotic,—Dial-Ciba.*

10. Froelich finds dial-ciba an agreeable and efficient hypnotic. One tablet of 0.1 gm. is sufficient in ordinary cases of insomnia. In nervous subjects 0.15 gm. will induce sleep of about seven hours' duration. Two to two and a half tablets are sometimes necessary. Post-hypnotic effects are less likely to occur if the drug is given moderately early in the evening. It is absorbed better if given dissolved in hot water or weak tea. [L. D. C.]

REVUE DE MÉDECINE.

APRIL, 1914.

1. *COUCHOND, P. L. *Kubisagari (Gerlier's Disease).*
2. MOLLARD, J., AND DUMAS, A. *Gallop Rhythm in the Course of and During Convalescence from Typhoid Fever.*

1. The "Maladie de Gerlier" was first met on the Franco-Swiss border. It was described as an affection, prevalent in that locality alone, presenting during the summer months periodic attacks of localized paresis. The muscles involved in the characteristic cases were those of the neck and lids, and less frequently the arms and legs. Gerlier describes the three stages graphically as follows: the first represents the "drunken man," whose unsteady gait is helped by the downcast eye; the second, the head and body are inclined to the earth, much as the peasants in Millet's Angelus; the third shows only the ptosis, so that the individual appears to sleep while standing.

In later years the same syndrome has been observed in certain of the countries of Northern Japan. Here the name kubisagari is used, because of the typical attitude of those afflicted. Miura lays especial stress upon the periodic appearance of the following symptoms: ptosis, paresis of the extensors of the neck and back, paresis of the arms, and paresis of the lips, tongue, and the muscles of deglutition.

The observations of Miura and Takemura show a wide variety of cases of this interesting, but rare and closely confined disease. The latter was able to isolate from the spinal fluid of one patient, suffering from an acute attack, a small, gram-negative micrococcus. Subcutaneous injections of this organism produced in a great majority of instances in cats symptoms directly correspondent with the human form of the disease. In only one instance could the same organism be recovered from the spinal fluid of a cat so affected. The bacteriological findings, while by no means conclusive, are encouraging and indicate the line of future work in connection with this disease. [L. H. S.]

REVUE DE CHIRURGIE.

APRIL, 1914.

1. *QUÉNU, E., AND COSTANTINI, H. *Indications for Intestinal Resection in the Radical Cure of Certain Herniae.*
2. *WALTER-SALLIS, J. *Non-Biliary Pancreatitides (Conclusion).*
3. *HARDONIN, P. *Clinical and Experimental Study on Traumatic Backward Dislocations of the Knee. (Conclusion.)*

1. The authors report a number of illustrative cases and conclude that, apart from complications, such as strangulation and gangrene, enterectomy may be indicated in herniae with a neoplastic or tuberculous content and in certain adherent herniae.

2. The writer reports 12 cases of his own observation and experience, and collects 45 others from the literature.

3. In conclusion, Hardonin summarizes a total of 79 collected cases, arranged according to his method of classification and illustrative of the types of backward knee dislocation. [R. M. G.]

Correspondence.

PARIS LETTER.

THE MEDICAL ATMOSPHERE OF THE RENAISSANCE AS PORTRAYED IN SOME EARLY FRENCH WRITERS.

II. MAÎTRE FRANÇOIS RABELAIS.
(1540–50, Circa.)

(From Our Special Correspondent.)

"Heureux le medicin qui est appelé sus la declination de la maladie!" (III.41.)

PARIS, 1914.

Mr. Editor: To undertake to write about such an intellectual colossus as Rabelais is impossible without a certain feeling of misgiving, for it is lamentable to be conscious of being unequal to one's subject, whose extent in this instance is infinite, Rabelais' range of knowledge seems, for his times, practically universal. The first fifteen years of his adult life were spent in convents, where he acquired his marvellous familiarity with the Greek and Latin classics, and an insight into the natural sciences, botany, etc., and astrology. He then laid aside the habit and undertook a round of the different universities of France, studying law, medicine and the liberal arts, ending up finally as a physician. The latter capacity led to his being attached to the embassies of various exalted personages to Italy, Rome and the Pope,—all of which ultimately gave him a breadth of view and field of experience quite out of the ordinary for his period.

Unfortunately, Rabelais is little known to the general reader. His prose is almost untranslatable, and if he is taken in the original the student is rebuffed by a style such as was never before seen in print, and by what seems, to us at least an endless amount of tedious detail. It is, I think, the common custom to look on Rabelais as a foul-mouthed, bibulous ribald. Never was there a grosser error. A man whose early education was acquired in learned and refined surroundings, whose constant frequentation was with cultivated professional men, and who was associated during his latter years with the most distinguished representatives of his country, could have had none of these characteristics. The language of his writings, is to be sure, something awful; it is strange that the very paper on which it stands does not turn red with dismay. Thus a friend of mine, a prominent divine, on inheriting an old and valuable edition of Rabelais, promptly put it in the fire in horror after only looking inside the covers! But this could never have been his natural mode of expression. It was assumed for a purpose, possibly to appeal to the masses. The speech of the people in France, even

STATUE OF RABELAIS AT CHINON.

today, is,—let us say "free," to a degree; listen to two cabbies on the street having a heart-to-heart unbosoming in a dispute, and you will have difficulty in finding anything more lurid even in Rabelais' astounding vocabulary. There is only one way of going at Rabelais,—to read him in the original, without expurgation, and to keep at him until you get quite used to his terrible style and pass through it to the riches concealed beyond. To resort to a simile that would certainly have appealed to our author, would it be rational to refrain from enjoying the contents of a bottle of rare old wine, simply because it was coated on the exterior with a thick layer of dirt, mold and cobwebs?

This remarkable confrère of ours is generally cited as the leading exponent of the art of using the most withering satire without a particle of passion or personal *animus* appearing in it,—a feat difficult above all others. Each of the liberal professions comes in for its share in turn, the Church, the Sorbonne, Medicine, and in particular Law; anything so appalling as his repeated onslaughts on his brethren of the legal profession I have never read. Yet in all of this the reader looks in vain for any evidence of concealed rancour or vengeance; he seems to have criticized and condemned purely because he saw the flaws and knew they deserved to be held up to opprobium. He appears to have been altogether ahead of his times; it would not be easy for a person, even nowadays, to take a more just view of the foibles of the first half of the 16th century.

It is in a way a consolation that of the four callings named, Rabelais is least severe on medicine; let us take this straw to our bosoms and be thankful for it such as it is! Law he simply reduced to pulp with a sledge-hammer and then cast that pulp into a furnace at white-heat. When he finished, there was nothing. His touch was that of the unflinching judge who, called on to consider a case absolutely bad in all particulars, says so in the plain and unmistakable language suited to the occasion. With the Church and the Sorbonne, on the other hand, his satire nearly approaches good-humor. He gives the impression that he is here dealing with a weak side of humanity, that is not without grave defects, but that really must not be taken too seriously. With medicine, however, his tone becomes almost kindly, joking, as of a parent managing a wayward child. It is possible that his leniency toward the medical art may be due to the fact that he considered himself in reality a physician, all of his later work being signed maître François Rabelais, docteur en medicine; but the fact remains that with one exception most of his little flings at our noble profession border rather on the joke-province than on that of satire. In the fifth book, in his vitriolic diatribe on the lawyers in the guise of the chasfourrez, he speaks of the "ignorance, impudence and imprudence of physicians, surgeons and apothecaries"; but the context here shows beyond peradventure that in all this fulmination of the Gueux-de-bien he was using the strongest terms at his command, and that since he wished to prove that the lawyers were the blackest of the black, the necessities of the case demanded that he should make his contrasts as sharply outlined as possible.

On leaving convent life for the universities he first went to Montpellier with the idea of taking up medicine, "mais il considera que l'estat estoit fascheux par trop et melancholicque, et que les medicins sentoyent les clysteres comme vieulx diables." That is more his real tone in dealing with the profession. Farther on he remarks: "Consider what a strange world this is: we entrust our souls to the theologians, who for the most part are heretics; our bodies to the physicians, who all abhor medicine and never take any; and our belongings to the lawyers who never go to law among themselves." The second phrase in this sentence Pantagruel accounts for as follows: "I can only approve of it, as I note that physicians lay so much stress on prophylaxis and precaution as regards their own health, that they stand in no need of curative treatment by means of drugs." It must be admitted that there seems a surprising amount of sound common sense in all of this, for the period.

As regards general hygiene, Rabelais is a strong partisan of having the chief meal at night, and of eating only sparingly at noon, "no more than sufficient to stay the clamours of the stomach . . . which is the only real way to live, based on good and sound medical precepts,—whatever a lot of fool doctors brought up among the Sophists may say to the contrary." So this point was in dispute even in those days! In the discussion between Frère Jean and Gargantua as to the advisability of drinking wine early in the day, the latter affirms that the practice is in complete disaccordance with medical teaching. This, however, is as good as no argument at all, in the eyes of the monk, who forthwith crushes his opponent with the following reason for not paying attention to what the doctors say: "Cent diables me saultent au corps s'il n'y a plus de vieulx hyvrognes qu'l n'a de vieulx medicins!" and he closes the discussion with "Mais, *venite apotemus!*" The jolly friar had concluded a most practical pact with his digestive organs, that will awaken feelings of envy in many a bosom, and that he unfolds in these terms: "I have arranged matters with my appetite in such a way that it always goes to rest when I do, and to this end I take the measures suitable during the day; but on the other hand it is equally ready to get up when I do."

Since we have mentioned the taking of wine, which occupies such a prominent part in all of Rabelais,—no action ever taking place without all hands first indulging in a drink,—and which has given rise to the idea that our author was a perpetual tippler, I should like to unburden myself on this point, which I have been at some pains to investigate personally, having made several trips to Rabelais' country, the Chinonnais, and sampled conscientiously the different wines of the region. I do not believe that there are any more grounds for considering Rabelais as a tippler, than as a scurrilous debauchee, as mentioned in the early part of this article, and for the reasons there given; still, this unceasing introduction of wine-

THE ANCIENT TOWN AND CHATEAU OF CHINON, ON THE VIENNE IN TOURAINE.

drinking throughout his works does require some explanation.

The French tongue has two words to describe the man who enjoys food, *gourmand* for him who merely "stokes" his stomach, and *gourmet* for the eater of refined and delicate taste. Now Rabelais was a *gourmet* in drinking, what they call a *fin palais*, in connection with the fermented juice of the grape. This is apparent in many a passage, thus: "le noble pontife (evesque d'Auxerre) aymoit le bon vin, comme faict tout homme de bien"; again: "vous mesmes, monsieur le prieur, aymez boyre du mielleur. Sy faict tout homme de bien; jamais homme noble ne hayst le bon vin; c'est un apophthegme monachal"; and there is an unmistakable accent of sincerity in the Friar's exclamation: "Que Dieu est bon, qui nous donne ce bon piot!" That cry came straight from the heart. Elsewhere, in one of his inimitable scenes, he refers to wine as "eau beniste de cave." So there is no doubt that Rabelais was not above appreciating a good thing when he got it. But there remain two points to clear up: how it was that his characters stood the amount of wine they were always imbibing; and why it was that Rabelais' constant refrain is that the wine must be cool.

As regards the first question,—when you have made a thorough study of the wines of the Chinon region you soon see that though very smooth and pleasant to the palate they have no bouquet and but a low degree of alcohol; it consequently seems probable that for a person of the district, accustomed to them from birth, the amount he could imbibe would be limited purely and simply by the quantity he could hold, and that the alcoholic effect on him would be more or less nil. This would seem to afford a satisfactory explanation of the fact that Rabelais' characters never move, morning, noon, or night, without first taking a copious libation of wine. But as regards the second point, the explanation is less easy. In Book I, Chap. 6, our author says that "a man of good sense always believes what he is told and what he finds in print." Now, although some people might dispute the validity of this assertion, I followed it in Rabelais' case, and in view of his constant cry: "beuvez fraiz si faire se peut," I took his advice at the letter, although the best Chinon wine is red, and it is against all rules to drink a red wine cold. I first landed at Chinon one winter's night, Christmas eve, in fact; but encouraged by a bright, cheerful dining room, and by finding comfortable central-heating in a little French provincial inn, I decided to begin my wine investigations at once and had a bottle up straight from an icy cellar. Beuveurs, mes frères,—*never* do that! Let my experience suffice. I spent the remainder of the evening nursing a hot water bag, in the hope of thawing out that awful lump beneath my chest.

This not seeming quite according to schedule I on the next day visited the Devinière, the farm where Rabelais was born, and lunched in a neighboring tavern, where we again had a red wine, which, after sampling, we carefully warmed before the fire. Rabelais says: "O Lachryma Christi! c'est de la Devinière. O, le gentil vin blanc, ce n'est que vin de taffetas." Now the white wine of the Devinière of 450 years ago may have been all sorts of things,—that I am not prepared to dispute; but to apply such terms to the product of today, is to indulge in what the rhetoricians call hyperbole, I believe. However, this does not prevent the fact that really first-class Chinon wine is a very pleasant drink. It may possibly be that in Rabelais' day the Chinon vineyards produced chiefly a white wine, which, I need hardly say, is usually consumed cold. I am afraid that I have been somewhat lengthy on this point; but it has been one that has preoccupied me considerably. There is a final detail in Rabelais connected with eating and drinking that is new, to me at least: that pears and cheese go remarkably well together. This I had never observed.

From an anatomical standpoint I should be glad if any reader can tell me why in Rabelais the medius is so frequently called "the medical finger"; I suppose there is some very simple explanation of this fact, but I do not know it. Rabelais also raises another question that had never occurred to me: that whereas some of our senses (sight, taste) are furnished by nature with means of protection (lids, lips), others, and in particular the sense of hearing, are not, but remain open to influences from the exterior all the time. This whole passage (III. 16) is very curious. Alexander the Great, victorious in Persia, was regretting that his people in far away Macedonia would not be able to hear of his prowesses until after so long a lapse of time, when a man presented himself before him and claimed to have invented a means whereby Alexander's fellow countrymen could be informed of the great news in the re-

markably short space of five days. This idea seemed to Alexander so uncanny that he refused even to listen to the man, which Rabelais reproves: "What would it have cost him to hear and learn what the man had invented? Nature appears to me to have created our ears open not without grounds . . . so that at all times, at night, we can constantly hear, and by hearing, constantly learn; for it is the sense above all others the most apt to instruct us."

As regards insomnia Rabelais puts into the mouth of his *enfant terrible*, Frère Jean, views that are sadly unorthodox. Gargantua being quite unable to fall asleep, the Friar remarks: "personally I never sleep really well except during a sermon or at prayers. Let us commence, you and I, the seven psalms, and see whether you are not soon asleep." And beginning the first psalm they were both sound asleep by the Beati Quorum! For seasickness Rabelais advises copious libations: "They all drank the travellers' health, and all the travellers drank theirs, which was the explanation of the fact that none of the assembly became seasick." The popular remedies of the day appear to have been: to drink seawater, pure or mixed with wine, for several days before going on board; to eat quinces, lemonpeel, or take pomegranate juice; to make a long fast; or to cover the stomach with paper,—"or otherwise to follow the directions which silly physicians give to those going to sea." Perhaps when next you go on board the good ship Mauretania you may like to try some of these novel remedies?

As regards the treatment of luës, it was that of the times,—sweating and inunctions, carried to the point that the patients teeth rattled in their heads like the keys of an organ, and they foamed at the mouth with excess of saliva. But where Rabelais really becomes curious is in his views as to the frequency of this disorder. When Epistemon returns from his brief sojourn in Tartarus, and speaks of the various occupations at which its inhabitants were kept busy, he says that Pope Sixtus' duty was to administer these very inunctions. "What, said Pantagruel, do they have that disorder *there?*" "Certainly, replied Epistemon; I never saw so many cases before: there are more than a hundred million of them; for, believe me, those that do not have it in this world get it in the next."—which is not a very reassuring outlook. In another passage he refers to the first known case of luës, contracted "by not taking his wine cool in summer!" This special etiology had not yet, I think, been reported. In Book II, Chap. 33, is an account of Pantagruel's encounter with the specific catarrh connected with Neisser's micro-organism. In French this scene goes all right; but I do not quite see how to turn it into English, so inquisitive readers will have to look it up in the text. But his explanation in this connection of the properties and nature of mineral springs, is certainly orginal, if nothing else.

In addition to the possibility of an early knowledge of wireless telegraphy, darkly hinted at in the story related concerning Alexander the Great, the question arises whether our confrère Carrel is entitled to quite so much credit for the originality of his researches as is customarily accorded to him. Thus, after one of their many combats Epistemon was found dead with his head completely severed from his body. Panurge, however, was equal to this predicament, as the victim was still quite warm. Clasping the head to himself so that it should not be exposed to the wind or lose heat, he carefully washed both surfaces of section with fine white wine, powdered and anointed it, and then adjusted vein to vein, nerve to nerve, and spondyle to spondyle, so that there should be no torticollis. He next placed 15-16 sutures all around, to prevent its falling off again, and ended up by an application of what he called "resuscitating ointment." Wherupon the patient breathed, opened his eyes, etc., and was given a big draught of white wine and burnt sugar,—naturally; it would have been strange if they had not introduced some more white wine into the scene somewhere, all hands having full right to refreshments after such a remarkable operation as that!

The list of Rabelais' curious views on medicine is hereby by no means exhausted, but fear that the reader's patience *is;* so I will close by the passage in which he refers to the question of physician's fees. His description of this scene is a pearl, but it will have to be given in the original: "puys s'approcha de luy et luy mist en main sans mot dire quatre nobles à la rose. Rondibilis les print trèsbien, puis luy dist en effroy, comme indigné: Hé, Hé, Hé, Monseiur, il ne falloit rien. Grand mercy toutesfoys. De meschantes gens jamais je ne prens rien. Rien jamais des gens de bien je ne refuse. Je suys tousjours à vostre commendement.—En poyant, dist Panurge? Cela s'entend, respondit Rondibilis!"

And with this shrewd piece of observation we will end this all too summary sketch of this, one of the most remarkable men our profession has ever included in its ranks.

"S."

Miscellany.

UNITED STATES CIVIL-SERVICE EXAMINATION.

ASSISTANT EPIDEMIOLOGIST, MALE.

July 6, 1914.

The United States Civil Service Commission announces an open competitive examination for assistant epidemiologist, for men only. From the register of eligibles resulting from this examination certification will be made to fill vacancies in this position in the Public-Health Service, at salaries ranging from $2000 to $2500 a year, and vacancies as they may occur in positions requiring similar qualifications, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

The duties of this position will be to conduct laboratory studies of disease, to make epidemiological surveys, to determine the prevalence and causation of epidemics, and to recommend measures to prevent and control outbreaks of disease.

It is desired to secure persons thoroughly competent in the various branches of sanitary bacteriology, and especially in isolating the typhoid bacillus from infected persons and materials.

An educational training equivalent to that required for graduation from a medical school or college of recognized standing, and at least three years' experience in epidemiological work under Federal, State, or local authorities, and experience in laboratory technic, especially in regard to tyhoid fever, are prerequisites for consideration for this position.

Applicants must have reached their twenty-third but not their fortieth birthday on the date of the examination.

This examination is open to all men who are citizens of the United States and who meet the requirements.

Persons who meet the requirements and desire this examination should at once apply for Form 304, and special form, stating the title of the examination for which the forms are desired, to the United States Civil Service Commission, Washington, D. C.; the Secretary of the United States Civil Service Board, Post Office, Boston, Mass.; Philadelphia, Pa.; Atlanta, Ga.; Cincinnati, Ohio; Chicago, Ill.; St. Paul, Minn.; Seattle, Wash.; San Francisco, Cal.; Customhouse, New York, N. Y.; New Orleans, La.; Honolulu, Hawaii; Old Customhouse, St. Louis, Mo.; or to the Chairman of the Porto Rican Civil Service Commis-

sion, San Juan, P. R. No application will be accepted unless properly executed, excluding the medical certificate, and filed with the Commission at Washington, with the material required, prior to the hour of closing business on July 6, 1914. The exact title of the examination as given at the head of this announcement should be stated in the application form.

BACTERIOLOGIST (MALE).

July 8, 1914.

The United States Civil Service Commission announces an open competitive examination for bacteriologist, for men only, on July 8, 1914. From the register of eligibles resulting from this examination certification will be made to fill vacancies in this position at salaries ranging from $1200 to $2000 a year, in the Bureau of Chemistry Department of Agriculture, for duty both in Washington, D. C., and in the field, and vacancies as they may occur in positions requiring similar qualifications, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

The duties of this position will be to examine bacteriologically food products which are subject to the food and drugs act in order to determine their sanitary condition.

An educational training equivalent to that required for a bachelor's degree or an M.D. degree from a college or university of recognized standing, including at least two years' training in bacteriology, is a prerequisite for consideration for this position.

Applicants must have reached their twenty-first but not their fortieth birthday on the date of the examination.

Applicants for this examination may be examined at any place at which it is held, regardless of their place of residence; but under an act of Congress only those who are examined in the State or Territory in which they reside and who have been actually domiciled in such State or Territory for at least one year previous to the date of the examination, will be eligible for appointment to a position in the apportioned service in Washington, D. C.

This examination is open to all men who are citizens of the United States and who meet the requirements.

Persons who meet the requirements and desire this examination should at once apply for application Form 1312, stating the title of the examination for which the form is desired, to the United States Civil Service Commission, Washington, D. C. No application will be accepted unless properly executed, excluding the medical certificate, and filed with the Commission in Washington in time to arrange for the examination at the place selected by the applicant. The exact title of the examination as given at the head of this announcement should be stated in the application form.

SOCIETY NOTICES.

AMERICAN PROCTOLOGIC SOCIETY.—The sixteenth annual meeting of the American Proctologic Society will be held at Atlantic City, N. J., on June 22 and 23. Executive Council meets 11 A.M. First Regular Session at 2 P.M. Annual Address of the President—subject: "The Future of Procto-Enterology," Dr. Joseph M. Mathews, Louisville, Ky. A program of 23 papers has been arranged.

ALFRED J. ZOBEL, M.D., *Secretary.*

San Francisco, Cal.

AMERICAN MEDICAL EDITORS' ASSOCIATION.—The forty-fifth annual meeting of the American Medical Editors' Association will be held at Atlantic City, N. J., on June 22, 1914, at 9 A.M. A literary program of 14 papers has been arranged. The dinner of the Association will be on Tuesday, June 23, at 7. P.M.

JOSEPH MACDONALD, JR., M.D., *Secretary.*

New York.

AMERICAN ASSOCIATION OF MEDICAL EXAMINERS.—The fourteenth annual meeting of the American Association of Medical Examiners will be held June 22, 1914, at Atlantic City, N. J. Hotel Dennis will be headquarters and meeting place.

APPOINTMENTS.

HARVARD UNIVERSITY. — *Dr. Robert Williamson Lovett* has been appointed professor of orthopedic surgery, and *Dr. Roger Irving Lee* professor of hygiene.

RECENT DEATHS.

DR. FRANK BISHOP HARRINGTON died at Brookline, June 8, 1914, aged 59 years. He had been a Councilor of The Massachusetts Medical Society since 1910 and was president of the Suffolk District Medical Society in 1911 and 1912

DR. JAMES A. BLAKE, of Brooklyn, N. Y., died from cardiac disease on June 9, in his 72d year. He was born in Lansingburgh, N. Y., and was graduated from the Albany Medical College in 1868 and the College of Physicians and Surgeons, New York, in 1869. For a number of years he was on the visiting staff of the Manhattan Eye, Ear and Throat Hospital. His son, Dr. James Eddy Blake, is a well-known radiographer in Brooklyn.

BOOKS AND PAMPHLETS RECEIVED.

Anatomy and Dissector in Abstract. By Stewart L. McCurdy, A.M., M.D. Medical Abstract Publishing Company.

Preliminary Note on a Skin Reaction Indicating Protection against Typhoid Fever. By F. P. Gay and J. N. Force. Reprint.

What the State Shall Do in the Care and Supervision of School Children. By Eugene H. Porter, M.A., M.D. Reprint.

Epidemiology of the Outbreak of Poliomyelitis in Buffalo, N. Y., 1912. By Wade H. Frost and James P. Leake. Reprint.

Department of Applied Statistics, University College, London. Questions of the Day and of the Fray. No. VII. Mendelism and the Problem of Mental Defect. I. A Criticism of Recent American Work. By David Heron, D.Sc. London, 1913.

On Psychology and Medical Education. By S. I. Franz. Reprint.

A Further Study of the Anatomy and Physiology of the Infant Stomach Based on Serial Roentgenograms. By Godfrey R. Pisek, M.D., and Leon Theodore LeWald, M.D. Reprint.

The Unexpurgated Case against Woman Suffrage. By Sir Almroth E. Wright, M.D. Paul B. Hoeber, 1913.

Worcester State Hospital Papers, 1912-1913. Offered in compliment to Dr. Hosea Mason Quinby. Massachusetts State Board of Insanity.

Surgical Experiences in South Africa, 1899-1900. By George Henry Makins, C.B. Oxford University Press. 1913.

The Surgical Treatment of Chronic Intestinal Stasis. By William Seaman Bainbridge, M.D. Reprint.

A Contribution to the Study of Chronic Intestinal Stasis. By William Seaman Bainbridge, M.D. Reprint.

What Occupation Neuroses Really Are. By Tom A. Williams, M.B., C.M. Reprint.